# TABLE OF CONTENTS

## Volume 2 – Appendices

1. **Appendix A.** CalCannabis Proposed Regulations for Medical Cannabis Cultivation Program
2. **Appendix B.** Comprehensive Medical Cannabis Regulation and Safety Act - 2016
3. **Appendix C.** Adult Use of Marijuana Act - 2016
4. **Appendix D.** CalCannabis Cultivation Licensing Updated Scoping Report
5. **Appendix E.** Summary of Existing and Proposed Local Commercial Cannabis Cultivation Regulations
6. **Appendix F.** Human Health and Ecological Screening Risk Evaluation
7. **Appendix G.** California Tribal Correspondence
8. **Appendix H.** Medicinal and Adult-Use Cannabis Regulation and Safety Act
9. **Appendix I.** Mitigation Monitoring and Reporting Program
10. **Appendix J.** CalCannabis Cultivation Licensing Program Environmental Impact Report CEQA Tiering Strategy and Checklist

## OTHER VOLUMES

## Volume 1 – Main Body

1. **Executive Summary**
2. **Chapter 1.** Introduction
3. **Chapter 2.** Proposed Program Description
4. **Chapter 3.** Proposed Program Activities
5. **Chapter 4.** Environmental Analysis
6. **Chapter 5.** Alternatives Analysis
7. **Chapter 6.** Cumulative Considerations
8. **Chapter 7.** Growth-Inducing Impacts
9. **Chapter 8.** Glossary and Acronyms
10. **Chapter 9.** Report Preparation
11. **Chapter 10.** References
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Volume 3 – Comments and Responses to Comments on the Draft PEIR</td>
</tr>
<tr>
<td>2</td>
<td>Chapter 1. Introduction</td>
</tr>
<tr>
<td>3</td>
<td>Chapter 2. Comments and Responses</td>
</tr>
<tr>
<td>4</td>
<td>Chapter 3. List of Letters Not Receiving a Detailed Response</td>
</tr>
<tr>
<td>5</td>
<td>Chapter 4. Changes to the Draft PEIR Text</td>
</tr>
<tr>
<td>6</td>
<td>Chapter 5. Report Preparation</td>
</tr>
<tr>
<td>7</td>
<td>Chapter 6. References</td>
</tr>
</tbody>
</table>
Appendix A

CalCannabis Proposed Regulations for Medical Cannabis Cultivation Program
These proposed regulations are being withdrawn because of the repeal of the Medical Cannabis Regulation and Safety Act (and replacement with the Medicinal and Adult-Use Regulation and Safety Act). They are presented here for informational purposes.

### TABLE OF CONTENTS

**PROPOSED REGULATIONS FOR MEDICAL CANNABIS CULTIVATION PROGRAM**

These proposed regulations are being withdrawn because of the repeal of the Medical Cannabis Regulation and Safety Act (and replacement with the Medicinal and Adult-Use Regulation and Safety Act). They are presented here for informational purposes.

§ 8303. Cultivation Plan Requirements for Processor Licenses

§ 8304. Holding Area Requirements for Destruction of Material

§ 8305. Cannabis Waste Management

§ 8306. Standards of Cleanliness

§ 8307. Packaging of Nonmanufactured Cannabis Products for Distribution

§ 8308. Labeling of Nonmanufactured Cannabis Products for Distribution

§ 8309. Propagation Requirements for Specialty Cottage, Specialty, Small, and Medium Licenses

§ 8310. Processing Requirements for Specialty Cottage, Specialty, Small, and Medium Licenses

§ 8311. Cultivation Requirements for Nurseries

§ 8312. Cultivation Requirements for Processor Licenses

§ 8313. Environmental Protection Measures

§ 8314. Additional Environmental Protection Measure for Mixed-Light Licenses

§ 8315. Additional Environmental Protection Measure for Indoor Licenses

Article 5. Records and Reporting

§ 8400. Record Retention

§ 8401. Track-and-Trace System

§ 8402. Track-and-Trace System Unique Identifiers (UID)

§ 8403. Track-and-Trace System User Requirements

§ 8404. Track-and-Trace System Reporting Requirements

§ 8405. Track-and-Trace System Inventory Requirements

§ 8406. Track-and-Trace System Requirements for Product in Licensee Possession at the Time of License Issuance

§ 8407. Inventory Audits

§ 8408. Notification of Diversion, Theft, Loss, or Criminal Activity

Article 6. Inspections, Investigations and Audits

§ 8500. Applicability

§ 8501. Inspections, Investigations and Audits

Article 7. Enforcement

§ 8600. Applicability

§ 8601. Administrative Actions

§ 8602. Notice of Violation

§ 8603. Administrative Hold Procedure

§ 8604. Informal Administrative Hearings

§ 8605. Informal Hearing Schedule and Notification

§ 8606. Conduct of Informal Hearings

§ 8607. Licensing Actions

§ 8608. Formal Administrative Hearings
These proposed regulations are being withdrawn because of the repeal of the Medical Cannabis Regulation and Safety Act (and replacement with the Medicinal and Adult-Use Regulation and Safety Act). They are presented here for informational purposes.

Original proposed additions are indicated by underline.

CALIFORNIA CODE OF REGULATIONS
TITLE 3. FOOD AND AGRICULTURE
DIVISION 8. MEDICAL CANNABIS CULTIVATION
CHAPTER 1. MEDICAL CANNABIS CULTIVATION PROGRAM

Article 1. Definitions
§ 8000. Definitions.
The following definitions, in addition to those stated in Section 19300.5 of the Business and Professions Code, apply to this Chapter.
(a) “Act” means the Medical Cannabis Regulation and Safety Act, Business and Professions Code Section 19300, et seq.
(b) “Batch” or “harvest batch” means a specifically identified quantity of dried flower or trim, leaves, and other cannabis plant matter that is uniform in strain, harvested at the same time, and, if applicable, cultivated using the same pesticides and other agricultural chemicals.
(c) “Bureau” means the Bureau of Medical Cannabis Regulation.
(d) “Canopy” means all of the following:
   (1) The designated area(s) at a licensed premises that will contain mature plants at any point in time;
   (2) Canopy shall be calculated in square feet and measured using clearly identifiable boundaries of all area(s) that will contain mature plants at any point in time, including all of the space(s) within the boundaries;
   (3) Canopy may be noncontiguous but each unique area included in the total canopy calculation shall be separated by an identifiable boundary such as an interior wall or by at least 10 feet of open space; and
   (4) If mature plants are being cultivated using a shelving system, the surface area of each level shall be included in the total canopy calculation.
(e) “Commercial cannabis activity” includes the cultivation, possession, manufacture, processing, storing, laboratory testing, labeling, transporting, distribution, delivery, or sale of medical cannabis or a medical cannabis product, except as set forth in Section 19319 of the Business and Professions Code, related to qualifying patients and primary caregivers.
(f) “Commingling” means the physical aggregation of harvest batches or nonmanufactured cannabis products by a licensee.
(g) “Cultivation” means any activity involving the planting, growing, harvesting, drying, curing, grading, or trimming of
These proposed regulations are being withdrawn because of the repeal of the Medical Cannabis Regulation and Safety Act (and replacement with the Medicinal and Adult-Use Regulation and Safety Act). They are presented here for informational purposes.

...
of the state:

(1) Any infectious, transmissible, or contagious disease of any plant, or any disorder of any plant which manifests symptoms or behavior which the director, after investigation and hearing, finds and determines is characteristic of an infectious, transmissible, or contagious disease;

(2) Any form of animal life;

(3) Any form of vegetable life;

(y) “Pesticide” means any of the following:

(1) Any spray adjuvant;

(2) Any substance, or mixture of substances which is intended to be used for defoliating plants, regulating plant growth, or for preventing, destroying, repelling, or mitigating any pest, as defined in Section 12754.5 of Food and Agricultural Code, which may infest or be detrimental to vegetation, man, animals, or households, or be present in any agricultural or nonagicultural environment whatsoever.

(2) “Premises” means the designated structure(s) and land specified in the application that are in possession of and used by the applicant or licensee to conduct the commercial cannabis activity. The premises shall be a contiguous area and may only be occupied by one licensee.

(aa) “Pre-roll” means only dried flower rolled in paper prior to retail sale.

(bb) “Processing” means all activities associated with drying, curing, grading, trimming, storing, packaging, and labeling of nonmanufactured cannabis products.

(cc) “Propagate” means to cultivate immature plants from cuttings or seeds.

(dd) “Strain” means a hybrid or variety of cannabis with similar or identical combinations of properties such as appearance, taste, color, smell, cannabinoid profile, and potency.

(ee) “Track-and-trace system” means the state approved system used to track commercial cannabis activity and movement.

(ff) “Watts per square foot” means the sum of the maximum wattage of all lights identified in the designated canopy area(s) in the Cultivation Plan divided by the sum of the dimensions in square feet of designated canopy area(s) identified in the Cultivation Plan.

Authority: Sections 19300.5 and 19304, Business and Professions Code and Section 11362.777, Health and Safety Code. Reference: Sections 19300.5, 19302.1, 19304, 19322, 19332, 19335, Business and Professions Code; and Sections 5006, 12753, and 12754.5, Food and Agricultural Code.

Article 2. Applications

§ 8100. Application Fees.

The following nonrefundable application fees apply for the specified license type and are due at the time the application is...
submitted to the Department:

(a) Specialty Cottage Outdoor- $65
(b) Specialty Cottage Indoor- $100
(c) Specialty Cottage Mixed-Light- $285
(d) Specialty Outdoor- $130
(e) Specialty Indoor- $1,070
(f) Specialty Mixed-Light- $555
(g) Small Outdoor- $265
(h) Small Indoor- $1,935
(i) Small Mixed-Light- $1,105
(j) Medium Outdoor- $765
(k) Medium Indoor- $4,260
(l) Medium Mixed-Light- $2,435
(m) Nursery- $60
(n) Processor $310


§ 8101. Owner.

(a) For publicly traded companies, “owner” means the chief executive officer or any person or entity with an aggregate ownership interest of 5 percent or more.

(b) For all businesses other than publicly traded companies, an owner is:

(1) An individual that has an aggregate ownership interest, other than a security interest, lien, or encumbrance, of 20 percent or more in the commercial cannabis business;

(2) The chief executive officer and all members of the board of directors of an entity when that entity has an aggregate ownership interest, other than a security interest, lien, or encumbrance, of 20 percent or more in the commercial cannabis business; or

(3) An individual that will be participating in the direction, control, or management of the licensed commercial cannabis business. For purposes of this section, participating in the direction, control, or management of the licensed commercial cannabis business means that the individual has been delegated discretionary powers to organize, direct, carry on or control the operations of the licensed commercial cannabis business. Authority to control one or
more of the following functions may be considered evidence that such an individual is participating in the direction, control, or management of the licensed commercial cannabis business:

(A) To hire or separate employees.

(B) To contract for the purchase or sale of cannabis.

(C) To make or participate in making policy decisions relative to operations of the licensed commercial cannabis business.

(c) Individuals that have a community property interest under Section 760 of Family Code in the commercial cannabis business but who will not be participating in the direction, control, or management of the commercial cannabis business as defined under subsection (b)(3) of this section are not required to submit the information required of owners in the application for licensure under Section 8102, subsection (b)(13) of this Chapter. However, information regarding an individual with a community property interest shall be disclosed by the owner in the application for licensure pursuant to 8102, subsection (b)(13)(O) of this Chapter. If a license in which an individual has a community property interest is revoked, the individual with community property interest shall be barred from holding an interest in a cultivation license that was revoked for the same period of time as the owner is barred from obtaining a new license. If a license in which an individual has a community property interest is denied, the individual shall be barred from holding an interest in a cultivation license for a period of one year.

(d) A bank or financial institution whose interest constitutes only a loan is not considered to be an owner.

(e) The following individuals are considered to have a noncontrolling interest in the commercial cannabis business and are not required to submit the information required of owners in the application for licensure under Section 8102, subsection (b)(13) of this Chapter:

(1) Individuals that own an interest in a commercial cannabis business that is less than 5 percent for publicly traded companies or less than 20 percent for all other businesses;

(2) Individuals that own an interest of an entity owner under subsection (b)(2) that are not the chief executive officer nor a member of the board of directors; and

(3) Individuals that own an interest in an entity that owns an interest in a commercial cannabis business that is less than 20 percent.


§ 8102. Application Requirements.

(a) All applications for cultivation licenses or renewals shall be submitted to the Department in a manner prescribed by the
Department.

(b) An application for a cultivation license shall include the following:

(1) The name of the applicant. For applicants who are individuals, the applicant shall provide both the first and last name of the individual. For applicants who are business entities, the applicant shall provide the legal business name of the applicant;

(2) The license type for which the applicant is applying;

(3) A list of the types and numbers of licenses from the Department and other cannabis licensing authorities that the applicant already holds, including the date the license was obtained and the licensing authority that issued the license;

(4) The physical address of the premises;

(5) The mailing address of the applicant;

(6) The phone number for the premises;

(7) Contact information for the applicant’s designated primary contact person including the name, title, address, phone number, and email address of this individual;

(8) A designated responsible party, who may also be the designated primary contact, with legal authority to bind the entity and serves as agent for service of process. The following information shall be provided for the responsible party: name, title, address, phone number, email address, and a copy of the owner’s government-issued identification. Acceptable forms of identification are a document issued by a federal, state, county, or municipal government, including, but not limited to, a driver’s license, that contains the name, date of birth, physical description, and picture of the person;

(9) The applicant shall also provide all documents filed with the California Secretary of State which may include but are not limited to: the business formation documents: articles of incorporation, operating agreement, partnership agreement, fictitious business name statement, certificate of stock, articles of organization, certificate of limited partnership, and statement of partnership authority. If an applicant is a foreign corporation, a certificate of qualification issued by the California Secretary of State pursuant to Section 2105 of Corporations Code;

(10) The following documentation issued by the local jurisdiction in which the business is proposing to operate:

(A) A copy of the license, permit, or other authorization issued by the local agency with jurisdiction over the proposed premises. The authorization shall contain:

(i) Name of the applicant;

(ii) Address of the premises being locally licensed;

(iii) License type for which the applicant is locally licensed;

(iv) Expiration date of the local authorization;

(v) Name of the local jurisdiction;
(vi) Name of the local jurisdiction office that issued the license, permit, or other authorization;
(vii) Name and contact information for the person authorized by the local jurisdiction to sign on its behalf; and
(viii) Signature of the person authorized to sign on behalf of the local jurisdiction.

(B) Certification that the applicant is in, or will be in compliance with all local ordinances and regulations including the General Plan, zoning ordinances, building code standards, noise ordinances, and land use plans.

(11) Evidence that the local permit, license or other authorization to cultivate cannabis was issued in conformance with Division 13 of the Public Resources Code; California Environmental Quality Act (CEQA), including a copy of the Notice of Determination or Notice of Exemption, and either a copy of the CEQA document or reference to where it can be located electronically. If the local jurisdiction did not prepare a CEQA document, the applicant will be responsible for providing an environmental document in compliance with CEQA that can be certified by the Department in its role as lead agency;

(12) The date the applicant began operations as specified in Section 8106 of this Chapter, if applicable;

(13) A complete list of every owner of the applicant entity as required by Section 8101 of this Chapter. Each individual named shall submit the following information:
   (A) The full name of the owner;
   (B) The owner’s title within the applicant entity;
   (C) The owner’s date of birth and the place of birth;
   (D) The owner’s social security number or individual taxpayer identification number;
   (E) The owner’s home address;
   (F) The owner’s phone number. This may include a number for the owner’s home, business, or mobile phone;
   (G) The owner’s email address;
   (H) The date the owner acquired an ownership interest in the applicant entity;
   (I) The percentage of the ownership interest held in the applicant organization by the owner;
   (J) If applicable, the number of shares in the applicant entity by the owner;
   (K) Whether the owner has a financial interest in any other cannabis business licensed by the State of California.

   For purposes of this section “financial interest” means an investment in a commercial cannabis business, a loan provided to a commercial cannabis business, or any other equity interest in a commercial cannabis business;

   (L) A copy of the owner’s government-issued identification. Acceptable forms of identification are a document issued by a federal, state, county, or municipal government, including, but not limited to, a driver’s license, that contains the name, date of birth, physical description, and picture of the person;

   (M) A detailed description of the owner’s convictions. A conviction within the meaning of this section means a plea or verdict of guilty or a conviction following a plea of nolo contendere. Convictions dismissed under Section 1203.4 of the Penal Code or equivalent non-California law shall be disclosed. Juvenile adjudications and traffic
infractions do not need to be included. For each conviction, the owner shall provide the following:

(i) The date of conviction;
(ii) Dates of incarceration if applicable;
(iii) Dates of probation if applicable;
(iv) Dates of parole if applicable;
(v) A detailed description of the offense for which the owner was convicted; and
(vi) A statement of rehabilitation for each conviction. The statement of rehabilitation is to be written by the owner and shall contain all evidence that the owner would like the Department to consider that demonstrates the owner’s fitness for licensure. Supporting evidence may be attached to the statement of rehabilitation and may include, but is not limited to, a certificate of rehabilitation under Section 4852.01 of the Penal Code, or dated letters of reference from employers, instructors, or professional counselors that contain valid contact information for the individual providing the reference.

(N) A copy of the owner’s completed application for electronic fingerprint images submitted to the Department of Justice;

(O) The following information regarding an individual with a community property interest in the commercial cannabis business under Section 760 of the Family Code shall be provided by the owner:

(i) The full name of the individual;
(ii) The individual’s date of birth and place of birth;
(iii) The individual’s social security number or individual taxpayer identification number;
(iv) The individual’s mailing address;
(v) The individual’s phone number. This may include a number for the owner’s home, business, or mobile phone;
(vi) Whether the individual has a financial interest in any other licensee under the Act. For the purpose of this section “financial interest” means an investment into a commercial cannabis business, a loan provided to a commercial cannabis business, or any other equity interest in a commercial cannabis business; and

(P) Attestation to the following statement: Under penalty of perjury, I hereby declare that the information contained within and attached to this application is complete, true, and accurate. I understand that a misrepresentation of fact is cause for rejection of this application, denial of the license, or revocation of a license issued.

(14) Evidence that the applicant has the legal right to occupy and use the proposed location as outlined in Section 8103 of this Chapter;

(15) Evidence that the proposed location is at least a 600-foot radius from a school, as defined by Section 11362.768 of the Health and Safety code;
(16) A valid seller’s permit number issued by the California State Board of Equalization. If the applicant has not yet received a seller’s permit, the applicant shall attest that the applicant is currently applying for a seller’s permit;

(17) Evidence of having obtained a surety bond in the amount of not less than $5,000, payable to the Department, to ensure payment for the cost of destroying cannabis product when such destruction is necessitated by a violation of the Act or this Chapter. The bond shall be issued by a corporate surety licensed to transact surety business in the State of California;

(18) Evidence of permits issued by the applicable Regional Water Quality Control Board or State Water Resources Control Board for water quality protection or written verification from the appropriate Board that a permit is not necessary;

(19) Evidence that the applicant has conducted a hazardous materials record search of the EnviroStor database for the proposed premises. If hazardous sites were encountered, the applicant shall provide documentation of protocols implemented to protect employee health and safety;

(20) A diagram of the premises as required by Section 8300 of this Chapter;

(21) A proposed Cultivation Plan developed as required in Sections 8301, 8302, or 8303 of this Chapter;

(22) The proposed location for retention of records as required by Section 8400 of this Chapter;

(23) For an applicant continuing operation under a local permit, license or other authorization prior to receiving a state license, a copy of a valid California Department of Fish and Wildlife Permit 1602, pursuant to Section 1602 of Fish and Game Code, or written verification from the Department of Fish and Wildlife that a streambed alteration agreement is not required;

(24) Identify at least one of the following water sources for cultivation activities and the applicable supplemental information for each source as specified in Section 8109 of this Chapter:
   (A) A retail water supplier;
   (B) A groundwater well;
   (C) A rainwater catchment system;
   (D) A diversion from a surface waterbody or an underground stream flowing in a known and definite channel; or
   (E) A diversion from a surface waterbody or an underground stream flowing in a known and definite channel claiming an exception from the requirement to file a statement of diversion and use;

(25) Applicants for indoor license types shall provide the power source(s) for cultivation activities, including but not limited to, illumination, heating, cooling, and ventilation;

(26) Businesses authorized to operate pursuant to Section 19328 (c) of Business and Professions Code shall provide the following:
   (A) Copy of the local ordinance adopted prior to July 1, 2015;
   (B) Evidence that the applicant was cultivating, manufacturing, and dispensing cannabis products on January 1,
2016, and has continuously done so since that date;

(C) Evidence that the applicant has been in full compliance with all applicable local ordinances at all times prior to submission of the application to the Department, and;

(D) Evidence that the applicant is registered with the State Board of Equalization for tax purposes.

(27) Applicants that will have 20 or more employees on payroll at any one time, shall attest that they will enter into, or demonstrate that it has already entered into, and will abide by the terms of a labor peace agreement;

(28) The applicant shall attest that no owner is a licensed retailer of alcoholic beverages;

(29) The applicant shall attest that it is an "agricultural employer" as defined by the Altarre-Zenovich-Dunlap-Berman Agricultural Labor Relations Act of 1975; Part 3.5 (commencing with Section 1140) Div. 2 Labor Code;

(30) If applying for an indoor license type, the applicant shall attest that the local fire department has been notified of the cultivation site;

(31) Any applicant that may fall within the scope of sovereign immunity that may be asserted by a federally recognizable tribe or other sovereign entity shall waive any sovereign immunity defense that the applicant may have, may be asserted on its behalf, or may otherwise be asserted in any state or local administrative or judicial enforcement actions against the applicant or licensee, regardless of the form of relief sought, whether monetary or otherwise, under the state laws and regulations governing commercial cannabis activity; and provide documentation as may be requested that establishes that the applicant has the lawful authority to enter into the waiver described above, and has effectively done so. The waiver shall meet the requirements of Section 8117 of this Chapter.

(32) The application shall be signed by the responsible party. The signature block shall contain an affidavit that the information in the application is true and that the applicant and all owners agree to operate in compliance with all applicable state law and local ordinances. Failure to comply may result in revocation of the license.


§ 8103. Property Owner Approval.

(a) If the applicant is not the owner of the property upon which the premises is located, the applicant shall provide the following to the Department:

(1) A document from the property owner that states the applicant has the right to occupy the property and acknowledges that the applicant may use the property for commercial cannabis cultivation;
(2) Property owner’s mailing address and phone number; and

(3) Copy of the lease or rental agreement, or other contractual documentation.

(b) If the applicant is the owner of the property on which the premises is located, the applicant shall provide to the Department a copy of the title or deed to the property.


§ 8104. Requirements for Continued Operation While Application Pending.

All applicants that were in operation prior to January 1, 2018, as specified in Section 8106 of this Chapter, may continue to operate while their application is pending if a completed application is submitted to the Department no later than 5:00 p.m. Pacific Standard Time on July 2, 2018, and the continuing operations of the applicant are the same activities in which the applicant is seeking licensure. If the application for licensure is denied, the applicant shall cease all commercial cannabis business operations until a license is obtained.


§ 8105. Priority Review.

Priority shall be given to applicants that began operation and were in good standing with the local jurisdiction by January 1, 2016, as specified in Sections 8106 and 8107 of this Chapter, and whose business ownership or premises are currently the same as they were on January 1, 2016. Priority applications shall be processed for review in the order in which they are received.


§ 8106. Date Operation Began.

(a) For the purposes of Sections 8104 and 8105 of this Chapter, the date on which an applicant was in operation is the date an applicant began actively conducting the same commercial cannabis activity as the license type for which the applicant is applying.

(b) For purposes of this section, “actively conducting” means engaging in cultivation of cannabis as authorized by the local jurisdiction.
(c) The applicant shall attest to the date under penalty of perjury and shall provide evidence of the date operations began by submitting a dated copy of any of the following:

(1) Articles of incorporation;
(2) Certificate of stock;
(3) Articles of organization;
(4) Certificate of limited partnership;
(5) Statement of partnership authority;
(6) Tax form;
(7) Local license, permit, or other written authorization;
(8) Receipts evidencing business transactions to or from the applicant; or
(9) Any other business record as deemed fit by the Department.


§ 8107. Good Standing.
For the purposes of Section 8105 of this Chapter, good standing shall be evidenced by a document issued or signed by the local jurisdiction that contains all of the following:

(a) Name of the applicant;
(b) Address of the premises to be licensed;
(c) License type for which the applicant is applying;
(d) Name of the local jurisdiction;
(e) Name of the local jurisdiction office that issued the license, permit, or other authorization for the applicant to conduct commercial cannabis activity in the jurisdiction as required by Section 19320 of Business and Professions Code;
(f) Name and contact information for the person authorized by the local jurisdiction to sign on its behalf;
(g) Signature of the person authorized to sign on behalf of the local jurisdiction; and
(h) The following statement: “The above named party has been issued a license, permit, or other authorization from this jurisdiction to conduct commercial cannabis cultivation. The above named party is currently in operation and was operating in good standing in this jurisdiction on or before January 1, 2016.”

§ 8108. Substantially Related Offenses Review.

(a) For the purpose of denial of a license, the following convictions shall be considered substantially related to the qualifications, functions, or duties of the business for which the application is made:

(1) A violent felony conviction, as specified in subdivision (c) of Section 667.5 of Penal Code;
(2) A serious felony conviction, as specified in subdivision (c) of Section 1192.7 of Penal Code;
(3) A felony conviction involving fraud, deceit, or embezzlement;
(4) Those contained in Section 19323 of Business and Professions Code;
(5) Any felony conviction involving the hiring, employment, or use of children in transporting, carrying, selling, giving away, preparing for sale or peddling any controlled substance to a minor, or offering, furnishing, or selling any controlled substance to a minor; and
(6) A felony conviction for drug trafficking with enhancements pursuant to Sections 11370.4 or 11379.8 of Health and Safety Code.

(b) Except as provided in subparagraphs (5) and (6) of paragraph (a) and notwithstanding Chapter 2 (commencing with Section 480) of Division 1.5 of Penal Code, a prior conviction, where the sentence, including any term or probation, incarceration, or supervised release, is completed, for possession of, possession for sale, sale, manufacture, transportation, or cultivation of a controlled substance is not considered substantially related, and shall not be the sole ground of denial for a license. Conviction for any controlled substance felony subsequent to licensure shall be grounds for revocation of a license or denial of the renewal of the license.

(c) To determine whether an applicant who has been convicted of a criminal offense that is substantially related to the qualifications, functions, or duties of the business for which the application is made should be issued a license, the Department shall conduct a review of the nature of the crime, conviction, circumstances, and evidence of rehabilitation. Evidence of rehabilitation includes:

(1) The nature and severity of the act or offense;
(2) Whether the person has a felony conviction based on possession or use of cannabis or cannabis products that would not be a felony if the person was convicted of the offense on the date of the person’s application;
(3) The applicant’s criminal record as a whole;
(4) Evidence of any act committed subsequent to the act or offense under consideration that could be considered grounds for denial, suspension, or revocation of a commercial cannabis activity license;
(5) The time that has elapsed since commission of the act or offense;
(6) The extent to which the applicant has complied with any terms of parole, probation, restitution, or any other sanctions lawfully imposed against the applicant;
(7) If applicable, evidence of dismissal under Section 1203.4 of Penal Code or another state’s similar law;
(8) If applicable, a certificate of rehabilitation obtained under Section 4852.01 of Penal Code or another state’s similar law; and

(9) Other evidence of rehabilitation submitted by the applicant.

c) If an applicant has been denied a license based on a conviction, the applicant may request a hearing pursuant to Section 19324 of Business and Professions Code to determine if the applicant should be issued a license.


§ 8109. Water Source Supplemental Information.
The following information shall be provided for the applicable water source(s):

(a) Retail water supply sources:

(1) If the water source is a retail supplier, such as a municipal provider, and meets the description in subdivision (a)(1)(A) of Section 19332.2 of the Business and Professions Code the applicant shall provide the name of the retail water supplier.

(2) If the water source is a small retail supplier, such as a delivery service, and is subject to subdivisions (a)(1)(B) and either (a)(2) or (a)(3) of Section 19332.2 of the Business and Professions Code:

(A) And if the contract is for delivery or pickup of water from a surface water body or an underground stream flowing in a known and definite channel, the applicant shall provide all of the following:

(i) The name of the contract water supplier;

(ii) The geographic location coordinates in either latitude and longitude or the California Coordinate System of any point of diversion used by the contract water supplier to divert water delivered to the applicant under the contract;

(iii) The authorized place of use for any water right used by the contract water supplier to divert water delivered to the applicant under the contract; and

(iv) The maximum amount of water delivered to the applicant for cannabis cultivation in any year.

(B) And if the contract is for delivery or pickup of water from a groundwater well, the applicant shall provide all of the following:

(i) The name of the contract water supplier;

(ii) The geographic location coordinates for any groundwater well used to supply water delivered to the applicant, in either latitude and longitude or the California Coordinate System;

(iii) The maximum amount of water delivered to the applicant for cannabis cultivation in any year; and
(iv) A copy of the well log filed with the Department of Water Resources pursuant to Section 13751 of Water Code for each percolating groundwater well used to divert water delivered to the applicant. If no well log is available, the applicant shall provide a letter from the Department of Water Resources indicating that the Department does not have a record of the well log. If no well log is available, the State Water Resources Control Board may request additional information about the well.

(b) If the water source is a groundwater well, the applicant shall provide all of the following:

(1) The groundwater well’s geographic location coordinates in either latitude and longitude or the California Coordinate System; and

(2) A copy of the well log filed with the Department of Water Resources pursuant to Section 13751 of Water Code. If no well log is available, the applicant shall provide a letter from the Department of Water Resources indicating that the Department does not have a record of the well log. If no well log is available, the State Water Resources Control Board may request additional information about the well.

(c) If the water source is a rainwater catchment system:

(1) The total square footage of the catchment footprint area(s);

(2) The total storage capacity, in gallons, of the catchment system(s); and

(3) A detailed description of the type, nature, and location of each catchment surface. Examples of catchment surfaces include a rooftop and greenhouse.

(d) If the water source is a diversion from a waterbody, the applicant shall provide any applicable statement, application, permit, license, or small irrigation use registration identification number(s); and either

(1) A copy of any applicable registrations, permits, or licenses or proof of a pending application, issued under Part 2 (commencing with Section 1200) of Division 2 of the California Water Code as evidence of approval of a water diversion by the State Water Resources Control Board;

(2) A copy of any statements of diversion and use filed with the State Water Resources Control Board before July 1, 2017 detailing the water diversion and use; or

(3) A copy of documentation submitted to the State Water Resources Control Board before July 1, 2017 demonstrating that the diversion is authorized under a riparian right and that no diversion occurred in any calendar year between January 1, 2010 and January 1, 2017.

(e) If the water source is a diversion and the applicant has claimed an exception from the requirement to file a statement of diversion and use, the applicant shall provide a copy of the documentation submitted to the State Water Resources Control Board before July 1, 2017 demonstrating that the diversion is subject to subdivision (a), (c), (d), or (e) of Section 5101 of Water Code.

Authority: Sections 19302.1, 19304, 19322, 19324, and 19332.2 Business and Professions Code and Section 11362.777,
§ 8110. Application Processing.

(a) The Department shall notify the applicant in writing that the application is either:

1. Complete and accepted for further review; or

2. Incomplete and the reasons for the incompleteness.

(A) The Department shall receive the missing information from the applicant no later than 90 calendar days from the date of the notification from the Department. Failure to provide the designated missing information will result in disqualification of the application for further consideration.

(B) If disqualified, the applicant may reapply and pay a new application fee.

(b) The Department shall notify the applicant in writing if the application is approved or denied with the reasons for denial.


§ 8111. Withdrawal of Application.

(a) An applicant may withdraw an application at any time prior to the Department’s issuance of a license or denial of a license.

(b) Requests to withdraw an application shall be submitted to the Department in writing, dated, and signed by the responsible party.

(c) The Department will not refund application fees for a withdrawn application.

(d) An applicant may reapply and pay a new application fee at any time following the withdrawal of an application.


§ 8112. Grounds for Denial of a License.

In addition to the reasons for denial in Section 19323 of Business and Professions Code, a license may be denied for the following reasons:

(a) The applicant’s premises does not fully comply with standards set forth in this Chapter;

(b) The applicant’s premises is substantially different from the diagram of the premises submitted by the applicant;

(c) The applicant denied the Department access to the premises;

Appendix A-18
(d) The applicant made a material misrepresentation on the application;
(e) The applicant did not submit a renewal application within in the timeframe specified in Section 8115 of this Chapter.
(e) The licensee has been denied a license, permit, or other authorization to engage in commercial cannabis activity by a state licensing authority or local agency; or
(f) The applicant or licensee has insufficient or outstanding fees owed to the Department.


§ 8113. Notification of License Information Change.
(a) Licensee shall notify the Department in writing within 10 calendar days of any change to any item listed in the application.
(b) Licensee shall notify the Department in writing of the following within 48 hours of:
   (1) Receiving the penalty or judgment of a criminal penalty or civil judgement rendered against the licensee; and
   (2) Receiving notification of the revocation of a local license, permit or other authorization.
(c) Licenses are not transferable, and in case of a change to the business organizational structure or ownership, a new application and application fee are required.


§ 8114. Physical Modification of Premises.
(a) A licensee shall not make a physical modification of the licensed premises that materially or substantially alters the licensed premises or the use of the licensed premises from the premises diagram originally filed with the license application without the prior written approval of the Department. The licensee whose premises are to be materially or substantially changed is responsible for filing a request for premises modification with the Department.
(b) Material or substantial changes, alterations, or modifications requiring approval include but are not limited to the removal, creation, or relocation of canopy, propagation, processing, packaging, composting, refuse, and chemical storage areas.
(c) Modifications or upgrades to electrical systems at a licensed premises shall be performed by a licensed electrician. A copy of the electrician’s license shall be submitted with any premises modification requests for electrical systems.
(d) A licensee shall request approval of a physical change, alteration, or modification in writing, and the request shall

Appendix A-19
include a new premises diagram that conforms to requirements in Section 8300 of this Chapter.

(e) A licensee shall provide additional documentation requested by the Department to evaluate the licensee’s request.


§ 8115. Renewal of License.

(a) An application for renewal of a cultivation license shall be submitted to the Department at least 30 calendar days prior to the expiration date of the current license.

(b) If a complete renewal application is submitted in a timely manner, the licensee may continue to operate until the Department approves or denies the renewal application. For purposes of this section, “timely manner” means postmarked no later than the expiration date of the current license.

(c) Upon expiration of the license, a licensee shall submit a late fee of 50 percent of the application fee to be paid in addition to the required annual renewal fee.

(d) A licensed cultivator that does not submit a complete license renewal application to the Department within 30 days after the expiration of the current license shall forfeit their eligibility to apply for a license renewal and, instead, shall be required to submit a new license application.

(e) The license renewal shall be submitted to the Department as prescribed by the Department and contain the following:

1. The name of the licensee. Licensees who are individuals shall provide both the first and last name of the individual. Licensees who are business entities shall provide the legal business name;
2. The license number and expiration date;
3. The licensee’s mailing address and premises address;
4. The annual license fee as prescribed in Section 8200 of this Chapter;
5. If applicable, documentation regarding any changes that have occurred from the information originally submitted to the Department as required in Section 8102 of this Chapter; and
6. An attestation that all information provided to the Department is accurate and current.


§ 8116. Surrender of License.

(a) Every licensee who surrenders, abandons, or quits the licensed premises, or who closes the licensed premises for a period exceeding 30 consecutive calendar days, shall, within 30 calendar days after closing, surrendering, quitting, or
abandoning the licensed premises, surrender the license certificate or license certificates to the Department. The Department may seize the license certificate or certificates of a licensee who fails to comply with the surrender provisions of this section and may proceed to revoke the license or licenses.

(b) Upon the voluntary request by any licensee the Department may cancel the license or licenses.


§ 8117. Waiver of Sovereign Immunity.

(a) The written waiver shall include that the applicant or licensee has the lawful authority to enter into the waiver required by this section, the applicant or licensee hereby waives sovereign immunity, and the applicant or licensee agrees to do all of the following:

1. Provide documentation to the Department that establishes that the applicant or licensee has the lawful authority to enter into the waiver required by this section;

2. Conduct all commercial cannabis activity in full compliance with the state laws and regulations governing commercial cannabis activity, including submission to all enforcement provisions thereof;

3. Allow access as required by statute or regulation by persons or entities charged with duties under the state laws and regulations governing commercial cannabis activity to any premises or property at which the applicant conducts any commercial cannabis activity, including premises or property where records of commercial cannabis activity are maintained by or for the applicant or licensee;

4. Provide any and all records, reports, and other documents as may be required under the state laws and regulations governing commercial cannabis activity;

5. Conduct commercial cannabis activity with other state commercial cannabis licensees only, unless otherwise specified by state law;

6. Meet all of the requirements for licensure under the state laws and regulations governing the conduct of commercial cannabis activity, and provide truthful and accurate documentation and other information of the applicant’s qualifications and suitability for licensure as may be requested;

7. Submit to the personal and subject matter jurisdiction of the California courts to address any matter related to the waiver or commercial cannabis application, license, or activity, and that all such matters and proceedings shall be governed, construed and enforced in accordance with California substantive and procedural law, including but not limited to the Act;

(b) Any applicant or licensee shall immediately notify the Department of any changes that may materially affect the applicant and licensee’s compliance with subdivision (a).

Appendix A-21
(c) Any failure by an applicant or licensee to comply with the requirements of subdivisions (a) and (b) shall be a basis for
denial of an application or renewal or discipline of a licensee.

Authority: Sections 19302, 19302.1, 19304 Business and Professions Code and Section 11362.777, Health and Safety

Article 3: Cultivation License Fees and Requirements

§ 8200. License Fees.
An annual license fee shall be paid to the Department prior to issuance of a license or renewal license. The fee schedule is
as follows:

(a) Specialty Cottage Outdoor- $595
(b) Specialty Cottage Indoor- $900
(c) Specialty Cottage Mixed-Light- $2,560
(d) Specialty Outdoor- $1,185
(e) Specialty Indoor- $9,620
(f) Specialty Mixed-Light- $4,980
(g) Small Outdoor- $2,370
(h) Small Indoor- $17,430
(i) Small Mixed-Light- $9,960
(j) Medium Outdoor- $6,890
(k) Medium Indoor- $38,350
(l) Medium Mixed-Light- $21,915
(m) Nursery- $560
(n) Processor- $2,790

Authority: Sections 19302.1, 19304, and 19332, Business and Professions Code and Section 11362.777 Health and Safety
Code; References: Sections 19300.7, 19302.1, 19332, and 19350 Business and Professions Code.

§ 8201. License Posting Requirement.
The license shall be prominently displayed on the licensed premises where it can be viewed by state or local agencies.

Authority: Sections 19302.1, and 19304, Business and Professions Code and Section 11362.777, Health and Safety Code.
References: Section 19302.1, Business and Professions Code, and Sections 55530, and 56193, Food and Agricultural Code.
§ 8202. General License Requirements.

(a) Department issued cultivation licenses shall be valid for 12 months from the date of issuance and shall be renewed annually.

(b) Every person shall obtain a separate license for each premises where it engages in commercial cannabis cultivation.

(c) Cultivation licenses are not transferrable or assignable to any other person, entity, or property.

(d) Licensees are prohibited from selling, bartering or donating any commercially cultivated cannabis from their licensed premises directly to an unlicensed premises or individual.


§ 8203. Cultivation License Types.

License types include:

(a) Specialty Cottage

   (1) “Specialty Cottage Outdoor” an outdoor cultivation site with up to 25 mature plants.

   (2) “Specialty Cottage Indoor” an indoor cultivation site with 500 square feet or less of total canopy.

   (3) “Specialty Cottage Mixed-Light” a mixed-light cultivation site with 2,500 square feet or less of total canopy.

(b) Specialty

   (1) “Specialty Outdoor” an outdoor cultivation site with less than or equal to 5,000 square feet of total canopy, or up to 50 mature plants on noncontiguous plots.

   (2) “Specialty Indoor” an indoor cultivation site between 501 and 5,000 square feet of total canopy.

   (3) “Specialty Mixed-Light” a mixed-light cultivation site between 2,501 and 5,000 square feet of total canopy.

(c) Small

   (1) “Small Outdoor” an outdoor cultivation site between 5,001 and 10,000 square feet of total canopy.

   (2) “Small Indoor” an indoor cultivation site between 5,001 and 10,000 square feet of total canopy.

   (3) “Small Mixed-Light” a mixed-light cultivation site between 5,001 and 10,000 square feet of total canopy.

(d) Medium

   (1) “Medium Outdoor” an outdoor cultivation site between 10,001 square feet and one acre of total canopy.

   (2) “Medium Indoor” an indoor cultivation site between 10,001 and 22,000 square feet of total canopy.

   (3) “Medium Mixed-Light” a mixed-light cultivation site between 10,001 and 22,000 square feet of total canopy.

(e) “Nursery” cultivation of cannabis solely as a nursery.

(f) “Processor” a cultivation site that conducts only trimming, drying, curing, grading or packaging of cannabis and
nonmanufactured cannabis products.

(g) “Producing Dispensary” for dispensers who have no more than three licensed dispensary facilities and wish to hold 
either a cultivation or manufacturing license or both. Cultivation shall be limited to no more than 4 acres of total 
canopy.

Authority: Sections 19302.1, 19304, 19322, and 19332, Business and Professions Code and Section 11362.777, Health and 

§ 8204. Cultivation License Limits.
The Department shall not restrict the total number of cultivation licenses a person is authorized to hold at any point in time, 
provided the person’s total licensed canopy does not exceed 4 acres.

Authority: Sections 19302.1, and 19304, Business and Professions Code and Section 11362.777, Health and Safety Code. 
References: Section 19304, Business and Professions Code.

§ 8205. Medium Cultivation License Limits.
Unless a person first presents a Producing Dispensary license issued by the Bureau, a person shall be limited to one Medium 
Outdoor, or one Medium Indoor, or one Medium Mixed-Light license.

Authority: Sections 19302.1, 19304, and 19332, Business and Professions Code and Section 11362.777, Health and Safety 

§ 8206. Multi-Tenant Cultivation.
Multiple cultivation licensees and license types may be located on the same property, as established by an assessor’s parcel 
number, if each licensed premises has a unique entrance and immovable physical barriers between uniquely licensed 
premises.

Authority: Sections 19302.1, 19304, and 19332, Business and Professions Code and Section 11362.777 Health and Safety 

§ 8207. License to License Movement and Commingling.
(a) Licensees, including those persons issued multiple cultivation licenses, are prohibited from commingling cannabis from 
other licensed cultivation premises.
(b) Cultivation licensees as defined in 8203 (a), (b), (c) or (d) are prohibited from transferring or receiving any cannabis or nonmanufactured cannabis products from other cultivation licensees as defined in 8203 (a), (b), (c) or (d). These cultivation licensees are allowed to receive immature plants or seeds from nursery licensees as defined in 8203 (e) and to transfer cannabis and nonmanufactured cannabis products to processor licensees as defined in 8203 (f).

Authority: Section 19304, Business and Professions Code and Section 11362.777 Health and Safety Code; References: Sections 19303, 19320, and 19335, Business and Professions Code.

§ 8208. Vertical Integration.

All cannabis cultivators that meet the requirements of Section 19328 (c)(1) of Business and Professions Code shall be licensed by the Department and are subject to all requirements in this Chapter.


§ 8209. Sample Collection by the Bureau.

When a licensee transfers possession, but not title of cannabis to a licensed distributor, the licensee shall allow the Bureau to collect samples for the Bureau's own laboratory analysis.


§ 8210. Prohibition of Product Returns.

Licensees are prohibited from accepting returns of cannabis plants or nonmanufactured cannabis products after transferring actual possession of cannabis plants or nonmanufactured cannabis to another licensee.

Authority: Section 19304, Business and Professions Code and Section 11362.777 Health and Safety Code; References: Sections 19307, and 19335, Business and Professions Code.

Article 4. Cultivation Site Requirements

§ 8300. Premises Diagram.

A premises diagram shall be submitted with each application and contain the following:

(a) Boundaries of the property and the proposed premises to be licensed, showing all boundaries, dimensions, entrances
and exits, interior partitions, walls, rooms, windows, and common or shared entryways. The diagram shall show the areas in which all commercial cannabis activities will take place, including but not limited to, areas listed in the Cultivation Plan;

(b) The assessor’s parcel number;

(c) The diagram shall be to scale;

(d) The diagram shall not contain any highlighting; and

(e) If the proposed premises consists of only a portion of a property, the diagram shall be labeled indicating which part of the property is the proposed premises and what the remaining property is used for.


§ 8301. Cultivation Plan Requirements for Specialty Cottage, Specialty, Small and Medium Licenses.
The Cultivation Plan for Specialty Cottage, Specialty, Small and Medium licenses shall include the following information:

(a) A diagram showing all boundaries and dimensions in feet of the following proposed areas:

(1) Premises diagram as required by Section 8300 of this Chapter;

(2) Canopy area(s) which shall contain all mature plants on the premises;

(3) Propagation area(s) which shall contain only immature plants;

(4) Designated pesticide and other agricultural chemical storage area(s);

(5) Designated holding area for cannabis scheduled for destruction;

(6) Designated processing area(s) if the licensee will process on site;

(7) Designated packaging area(s), if the licensee will package products on site;

(8) Designated composting area if the licensee will compost plant waste on site;

(9) Designated refuse area(s);

(10) Designated area(s) for harvested cannabis storage; and

(11) Water storage location and source information, including the following (all locations shall be noted on the diagram with locations also provided as coordinates in either latitude and longitude or the California Coordinate System):

(A) Sources of water used, including the location of waterbody diversion(s), pump location(s), and distribution system; and

(B) Location, type, and capacity of each water storage unit to be used for cultivation.

(b) For indoor and mixed-light license type applications, a lighting diagram with the following information shall be included:

(1) Location of all lights in the canopy area(s); and

(2) Maximum wattage of each light.
(c) A pest management plan which shall include, but not be limited to, the following:
   
   (1) Product name and active ingredient(s) of all pesticides to be applied to cannabis during any stage of plant growth; 
       and
   
   (2) Integrated pest management protocols including chemical, biological and cultural methods the applicant anticipates 
       using to control or prevent the introduction of pests on the cultivation site.

(d) A cannabis waste management plan meeting the requirements of Section 8305 of this Chapter.

Authority: Sections 19304, 19322, 19332, and 19332.2, Business and Professions Code and Section 11362.777, Health and 

§ 8302. Cultivation Plan Requirements for Nursery Licenses.

The Cultivation Plan for Nursery licenses shall include the following information:

(a) A diagram showing all boundaries and dimensions, in feet, of the following proposed areas:

   (1) Premises diagram as required by Section 8300 of this Chapter;
   
   (2) Propagation area(s) which shall contain only immature plants;
   
   (3) Designated research and development area(s) which may contain mature plants;
   
   (4) Designated seed production area(s) which may contain mature plants;
   
   (5) Designated pesticide and other agricultural chemical storage area(s);
   
   (6) Designated holding area for cannabis scheduled for destruction;
   
   (7) Designated composting area if the licensee will compost plant waste on site;
   
   (8) Designated refuse area(s); and
   
   (9) Water storage location and source information, including the following (all locations shall be noted on the map or 
       diagram with locations also provided as coordinates in either latitude and longitude or the California Coordinate 
       System):

       (A) Sources of water used, including the location of waterbody diversion(s), pump location(s), and distribution 
           system; and
       
       (B) Location, type, and capacity of each storage unit to be used for cultivation.

(b) A pest management plan which shall include, but not be limited to, the following:

   (1) Product name and active ingredient(s) of all pesticides to be applied to cannabis during any stage of plant growth; 
       and
       
   (2) Integrated pest management protocols including chemical, biological and cultural methods the applicant anticipates 
       using to control or prevent the introduction of pests on the cultivation site.

(c) A cannabis waste management plan meeting the requirements of Section 8305 of this Chapter.
§ 8303. Cultivation Plan Requirements for Processor Licenses.

The Cultivation Plan for Processor licenses shall include a diagram showing all boundaries and dimensions, in feet, of the following proposed areas:

(a) Premises diagram as required by Section 8300 of this Chapter;
(b) Designated holding area for cannabis scheduled for destruction;
(c) Designated processing area(s);
(d) Designated packaging area(s), if the licensee will package products on site;
(e) Designated composting area if the licensee will compost plant waste on site;
(f) Designated refuse area(s);
(g) Designated area(s) for harvested cannabis storage; and
(h) A cannabis waste management plan meeting the requirements of Section 8305 of this Chapter.


§ 8304. Holding Area Requirements for Destruction of Material.

(a) Cannabis plant material scheduled for destruction shall be held in a holding area identified in the Cultivation Plan.

(b) Cannabis plant material shall be held for 5 calendar days after notifying the Department of the intended destruction; the Department may conduct oversight of destruction.


§ 8305. Cannabis Waste Management.

(a) For the purposes of this Chapter, “cannabis waste” is waste that is not hazardous waste as defined in Section 40141 of Public Resources Code, and is solid waste, as defined in Section 40191 of Public Resources Code, that contains cannabis and that has been made unusable and unrecognizable in the manner prescribed in subsection (e). A licensee may not sell cannabis waste.

(b) A licensee shall manage all waste that is hazardous waste, as defined in Section 40141 of Public Resources Code, in
compliance with all applicable hazardous-waste statutes and regulations.

(c) A licensee shall dispose of cannabis waste as identified in the licensee’s Cultivation Plan approved by the Department. A licensee shall not dispose of cannabis waste in an unsecured waste receptacle, whether in the control of the licensee or not.

(d) Cannabis that a licensee intends to render into cannabis waste shall be held in the designated holding area for a minimum of 72 hours. A licensee shall affix to each batch one or more documents with batch information and weight. At no time during the 72 hour hold period may the cannabis be handled, moved, or rendered into cannabis waste. The cannabis the licensee intends to render into cannabis waste is subject to inspection by the Department.

(e) A licensee shall make cannabis into cannabis waste by rendering the cannabis unusable and unrecognizable. The licensee shall render the cannabis into cannabis waste before removing the cannabis waste from the licensed premises. A licensee shall render the cannabis into cannabis waste by grinding and incorporating the cannabis with other ground material so that the resulting mixture is at least 50 percent noncannabis material by volume. A licensee shall render cannabis into cannabis waste and track that waste by batch.

(f) Cannabis that a licensee wishes to deposit at a compostable materials handling facility or at an in-vessel digestion facility may be rendered cannabis waste by incorporating any nonhazardous compostable material, as defined in Title 14 of the California Code of Regulations at Section 17852 (a)(11), that a compostable materials handling facility or in-vessel digestion facility may lawfully accept.

(g) Unless a licensee will compost onsite, after a licensee renders the cannabis into cannabis waste, a licensee shall do one of the following with the cannabis waste:

(1) Dispose of the cannabis waste at a manned and fully permitted solid waste landfill;

(2) Deposit the cannabis waste at a manned solid waste operation or a manned fully permitted compostable materials handling facility; or

(3) Deposit the cannabis waste at a manned solid waste operation or a manned fully permitted in-vessel digestion facility.

(h) In addition to all other tracking requirements set forth in Sections 8404 and 8405 of this Chapter, a licensee shall use the track-and-trace system and onsite documents to ensure the cannabis waste materials are identified, weighed, and tracked while on the licensed premises and when disposed of or deposited in accordance with subsection (g).

(i) A licensee shall enter the date and time that the cannabis was rendered cannabis waste and the weight of the resulting cannabis waste into the track-and-trace database.

(j) A licensee shall maintain accurate and comprehensive records regarding cannabis waste material that account for, reconcile, and evidence all activity related to the generation and disposal or disposition of cannabis waste. A licensee shall obtain a record from the solid waste facility evidencing the acceptance of the cannabis waste material at the facility. The record shall contain the name and address of the facility, the date, and the volume or weight of the
cannabis waste accepted. These documents are records subject to inspection by the Department and shall be kept in compliance with Section 8400 of this Chapter.

(k) A licensee shall enter the date and time of the disposal or deposit of the cannabis waste at a solid waste facility, compostable materials handling facility, or an in-vessel digestion facility into the track-and-trace system.


§ 8306. Standards of Cleanliness.

(a) All cannabis shall be kept commercially clean in respect to established pests of general distribution. Commercially clean shall mean that pests are under effective control, are present only to a light degree, and that only a few of the plants in any propagation or canopy area(s) on the premises show any infestation or infection, and of these none show more than a few individuals of any insect, animal or weed pests or more than a few individual infestations of any plant disease.

(b) Cannabis plants shall be kept free of:

(1) Pests of limited distribution, including pests of major economic importance which are widely, but not generally distributed; and

(2) Pests not known to be established in California.


§ 8307. Packaging of Nonmanufactured Cannabis Products for Distribution.

A package used to contain a nonmanufactured cannabis product shall adhere to the following requirements:

(a) The package shall protect the product from contamination and shall not expose the product to any toxic or harmful substance;

(b) The package shall be tamper-evident, which means that the product is packaged in a container within which a product is sealed so that the contents cannot be opened without obvious destruction of the seal; and

(c) The package shall not imitate any package used for products typically marketed to children.

Authority: Sections 19302.1, 19304, and 19332, Business and Professions Code and Section 11362.777 Health and Safety...
§ 8308. Labeling of Nonmanufactured Cannabis Products for Distribution.
The following labeling requirements shall be implemented within 180 days of licensure, or by December 31, 2018, whichever is sooner:
(a) Any information required to be listed on a label shall be written in English;
(b) Label and all required label information shall be unobstructed and conspicuous;
(c) The label shall be in a text size no less than 6 point font and be in relation to the size of the container; and
(d) The label shall include the following information:
   (1) The applicable requirements of Section 19347 of Business and Professions Code;
   (2) The net weight of the contents in the package; and
   (3) The unique identifier assigned by the track-and-trace system as required by Section 8402 of this Chapter.


§ 8309. Propagation Requirements for Specialty Cottage, Specialty, Small, and Medium Licenses.
(a) Licensees shall only propagate immature plants for planting at their licensed premises in designated propagation area(s).
(b) Mother plants used for propagation shall be maintained as immature plants and located in the designated propagation area(s).
(c) Cannabis plants in the propagation area(s) are prohibited from flowering. Should plants in the propagation area begin to flower, the Department shall be notified immediately through the track-and-trace system.
(d) Licensees shall follow standards of cleanliness required in Section 8306 of this Chapter for the production of immature plants.
(e) Licensees producing seed for planting at their licensed premises shall do so in designated propagation area(s). All plants used for seed production shall be tagged with a unique identifier in accordance with Section 8402 of this Chapter.
(f) Licensees propagating immature plants for distribution or seed for distribution to another licensee shall obtain a Nursery license.

§ 8310. Processing Requirements for Specialty Cottage, Specialty, Small, and Medium Licenses.
(a) Licensees shall process their cannabis only in designated processing area(s) or transport it to a licensed Processor.
(b) Licensees may produce nonmanufactured cannabis products for distribution without a Manufacturing license, provided compliance with packaging and labeling requirements in Sections 8307 and 8308 of this Chapter.


§ 8311. Cultivation Requirements for Nurseries.
(a) Nurseries producing immature plants for distribution may maintain a research and development area for the cultivation of mature plants. All mature plants shall be tagged with a unique identifier as required by Section 8402 of this Chapter.

Nonmanufactured cannabis products derived from these plants are prohibited from entering the commercial distribution chain without the appropriate cultivation license.

(b) Licensees shall only conduct research and development on the premises in designated areas identified in their Cultivation Plan approved by the Department.

(c) Nurseries producing seed for distribution shall tag all mature plants as required by Section 8402 of this Chapter.

Nonmanufactured cannabis products derived from these plants are prohibited from entering the commercial distribution chain without the appropriate cultivation license.


§ 8312. Cultivation Requirements for Processor Licenses.
Processor licensees shall comply with all of the following requirements:
(a) All aggregation of product for packaging for retail sale shall adhere to Section 8402 of this Chapter;

(b) Licensees may produce nonmanufactured cannabis products as defined by Section 8000 (r) of this Chapter for distribution without a manufacturing license, provided compliance with packaging and labeling requirements in Sections 8307 and 8308 of this Chapter; and

(c) Cultivation of cannabis plants is prohibited at a licensed processor.

§ 8313. Environmental Protection Measures.

All licensees shall comply with the following environmental protection measures:

(a) Compliance with Section 13149 of Water Code as enforced by the State Water Resources Control Board.

(b) All outdoor lighting used for security purposes shall be shielded and downward facing.

(c) Immediately halt cultivation activities if human remains are discovered and implement Section 7050.5 of Health and Safety Code.

(d) The use of generators for cultivation is prohibited, except for temporary use in the event of a power outage or emergency.

(e) Compliance with pesticide laws and regulations as enforced by the Department of Pesticide Regulation.

(f) For all pesticides that comply with subsection (e) above and are exempt from registration requirements, licensees shall comply with the following pesticide application and storage protocols:

1. Comply with all pesticide label directions;
2. Store chemicals in a secure building or shed to prevent access by wildlife;
3. Contain any chemical leaks and immediately clean up any spills;
4. Apply the minimum amount of product necessary to control the target pest;
5. Prevent offsite drift;
6. Do not apply pesticides when pollinators are present;
7. Do not allow drift to flowering plants attractive to pollinators;
8. Do not spray directly to surface water or allow pesticide product to drift to surface water. Spray only when wind is blowing away from surface water bodies;
9. Do not apply pesticides when they may reach surface water or groundwater; and
10. Only use properly labeled pesticides. If no label is available consult the Department of Pesticide Regulation.


§ 8314. Additional Environmental Protection Measure for Mixed-Light Licenses.

Mixed Light license types of all sizes shall ensure that lights used for cultivation are shielded from sunset to sunrise to avoid nighttime glare.
§ 8315. Additional Environmental Protection Measure for Indoor Licenses.
Indoor license types of all sizes shall ensure that electrical power used for commercial cannabis activity shall be provided by any combination of the following:
(a) On-grid power with 42 percent renewable source.
(b) Onsite zero net energy renewable source providing 42 percent of power.
(c) Purchase of carbon offsets for any portion of power above 58 percent not from renewable sources.
(d) Demonstration that the equipment to be used would be 42 percent more energy efficient than standard equipment, using 2014 as the baseline year for such standard equipment.

Article 5. Records and Reporting
§ 8400. Record Retention.
The provisions of this section apply to all cultivators licensed by the Department. For the purposes of this Chapter, the term record includes: all records, applications, reports or other supporting documents required by the Department.
(a) Each licensee shall keep and maintain the records listed in subsection (e) for at least 7 years from the date the document was created.
(b) Records shall be kept in a manner that allows the records to be immediately produced for the Department at the licensed premises.
(c) All records related to commercial cannabis activity are subject to inspection by the Department.
(d) A licensee may contract with a third party to provide custodial or management services of the records. Such a contract shall not relieve the licensee of its responsibilities under this section.
(e) Each licensee shall maintain all of the following records on the licensed premises or at a different location identified by the licensee and approved by the Department, including but not limited to:
   (1) Department issued cultivation license(s);
   (2) Cultivation Plan;
   (3) All records evidencing compliance with the environmental protection measures required in Sections 8313, 8314, and 8315 of this Chapter;
   (4) Any supporting documentation for data or information input into the track-and-trace system;
(5) Financial records, including but not limited to, bank statements, tax records, invoices, and sales receipts;
(6) Personnel records, including each employee’s full name, social security, or individual taxpayer identification number, date of beginning employment, and date of termination of employment if applicable;
(7) Training records, including but not limited to the content of the training provided and the names of the employees that received the training;
(8) Contracts with other state licensed medical cannabis businesses;
(9) Permits, licenses, and other local authorizations to conduct the licensee’s commercial cannabis activity;
(10) Security records; and
(11) Records associated with the composting or disposal of cannabis waste.

(f) All required records shall be prepared and retained in accordance with the following conditions:

(1) Records shall be legible; and
(2) Records shall be stored in a secured area where the records are protected from debris, moisture, contamination, hazardous waste, fire and theft.


§ 8401. Track-and-Trace System.

The Department shall establish a track-and-trace system for unique identifiers of cannabis and nonmanufactured cannabis products, which all licensees shall use. Each licensee shall report in the track-and-trace system the disposition of immature and mature plants, as required by Section 8402 of this Chapter, and nonmanufactured cannabis products on the licensed premises and any transfers associated with commercial cannabis activity between licensees.

(a) The licensee is responsible for the accuracy and completeness of all data and information entered into the track-and-trace system. Data entered into the track-and-trace system is assumed to be accurate and can be used to take enforcement action against the licensee if not corrected.

(b) Attempts to falsify or misrepresent data or information entered into the track-and-trace system is a violation and subject to enforcement.

(c) Each licensee shall use the track-and-trace system for recording all applicable commercial cannabis activities. Each licensee shall do all of the following activities:

(1) Establish an account in the track-and-trace system prior to engaging in any commercial cannabis activities associated with their license and maintain an active account while licensed;

(2) Designate at least one of the owners or the responsible party named in the application to be the track-and-trace system administrator. The licensee may authorize additional administrator accounts for the licensee;
(3) Require designated administrators to complete initial training prior to accessing the system and participate in ongoing training as required by the Department;

(4) Designate track-and-trace system users, as needed, and require the designated users to be trained by the licensee’s track-and-trace system administrator in the proper and lawful use of the track-and-trace system before the designated users are permitted to access the track-and-trace system;

(5) Require the designated administrator to maintain an accurate and complete list of all track-and-trace system administrators and users and update the list immediately when changes occur;

(6) Cancel any track-and-trace system administrator or user from an associated track-and-trace system account if that individual is no longer a licensee representative or the administrator; and

(7) Correct any data that is entered into the track-and-trace system in error within 24 hours of discovery of the error.

(d) The licensee is responsible for all actions any licensee representatives take while logged into the track-and-trace system or otherwise conducting commercial cannabis activities.

(e) If a licensee loses access to the track-and-trace system for any reason, the licensee shall prepare and maintain comprehensive records detailing all tracking inventory activities that were conducted during the loss of access.

(1) Once access to the track-and-trace system is restored, all inventory tracking activities that occurred during the loss of access shall be entered into the track-and-trace system within 48 hours.

(2) A licensee shall document when access to the track-and-trace system was lost and when it was restored.

(3) A licensee shall not transport any cannabis or nonmanufactured cannabis products to other licensed premises until such time as access is restored and all information is recorded into the track-and-trace system.


§ 8402. Track-and-Trace System Unique Identifiers (UID).

(a) UIDs shall be issued by the Department, or the Department’s designee, for every applicable cannabis plant and nonmanufactured cannabis product cultivated by the licensee.

(b) The licensee shall only use UIDs issued by the Department, or the Department’s designee.

(c) The UID shall accompany the cannabis and nonmanufactured cannabis products through all phases of the growing cycle, as follows:

(1) Licensees with immature plants shall apply a UID to each established lot respectively. For the purposes of this subsection, each lot of immature plants shall not have more than 100 immature plants, at any one time. All immature plants in a lot shall be kept in close proximity to each other on the licensed premises.

(2) Immature plants being transported by a licensed nursery to a licensed cultivation site shall be by established lot of
immature plants as provided in subsection (c)(1). Immature plants intended for retail sale shall have a UID applied to each individual plant prior to leaving the licensed nursery premises.

(3) The licensee shall apply a UID to all individual plants at the time any plant is moved to the designated canopy area, as provided in the Cultivation Plan. The UID applied to an individual plant shall be associated with the UID from the lot of immature plants it was derived from.

(4) UIDs are required for each mature plant and shall be placed at the base of each plant.

(5) UIDs are required for all nonmanufactured cannabis products and shall be associated with the UID from the applicable harvest batch.

(d) Licensee shall only package cannabis harvested from the same harvest batch. Each harvest batch shall receive a new UID that is associated with all UIDs for each individual plant contained in the harvest batch.

(e) Upon destruction or disposal of any cannabis or nonmanufactured cannabis products, the applicable UIDs shall be retired in the track-and-trace system.


§ 8403. Track-and-Trace System User Requirements.

(a) The licensee and any track-and-trace system administrator or user as identified by the licensee pursuant to Section 8401(c) of this Chapter, shall enter all commercial cannabis activities in the track-and-trace system.

(b) Each track-and-trace system administrator and user shall have a unique log-on, consisting of a username and password, which shall not be used by any other person.

(c) It is a violation for any person to intentionally misrepresent or falsify information entered into the track-and-trace system.

(d) The licensee shall monitor all notifications from the track-and-trace system and resolve all the issues included in the notification in the time frame specified in the notification. A licensee shall not dismiss a notification from the track-and-trace system until the licensee resolves the issues included in the notification.

(e) Failure to comply with the requirements of this section may result in enforcement action, including revocation of the license.


§ 8404. Track-and-Trace System Reporting Requirements.
(a) The licensee shall report through the track-and-trace system, any and all transfers of cannabis or nonmanufactured cannabis products to another licensed entity.

(b) The licensee shall notify the Department at least 24 hours prior to entering a change in the disposition of cannabis plants on the licensed premises or transfer of any cannabis or nonmanufactured cannabis products to another licensed premises.

(c) The following information shall be reported by the licensee for each transfer of cannabis or nonmanufactured cannabis products to other licensed premises:

1. License number of the transporter receiving the cannabis or nonmanufactured cannabis products;
2. Transaction date (i.e., month, day and year). The date of any sale or transfer of cultivated cannabis or nonmanufactured cannabis products shall be the date of transfer to the licensee receiving it;
3. License number issued by the Department;
4. Quantity, if applicable;
5. Weight. For the purposes of this section, weight is defined as the net weight of the cannabis or nonmanufactured cannabis products, being provided to a licensed transporter. Weight shall be measured, recorded and reported in pounds, ounces and fractions thereof. All weighing shall be done on a scale or other device approved, tested and sealed in accordance with Division 5 (commencing with Section 12001), of the Business and Professions Code (Weights and Measures) and any applicable regulations thereunder;
6. Applicable product category as follows:
   (A) Flower
   (B) Leaf
   (C) Pre-roll;
7. Departure time and estimated arrival time;
8. Classification of the product. For purposes of this section, classification shall include all of the following:
   (A) Genus
   (B) Species
   (C) Strain; and
9. UID(s).


§ 8405. Track-and-Trace System Inventory Requirements.
Licensees shall use the track-and-trace system for all inventory tracking activities at a licensed premises, including, but not
limited to all the following:

(a) Reconcile all on-premises and in-transit cannabis or nonmanufactured cannabis products inventories per the time frames defined by the Department; and

(b) Record the dry weight of all harvested cannabis once all drying and curing activities have been completed.


§ 8406. Track-and-Trace System Requirements for Product in Licensee Possession at the Time of License Issuance.

Within 15 calendar days of a cultivation license being issued by the Department, the licensee shall enter into the track-and-trace system and apply a UID to each existing immature plant lot, individual mature plants, and nonmanufactured cannabis product physically located on the licensed premises. After this 15 day time frame expires, all cannabis at the licensed premises shall be entered into the track-and-trace system starting with seed, clone propagated onsite or purchased from a licensed nursery, or seedling purchased from a licensed nursery. This section shall become invalid on July 1, 2019.


§ 8407. Inventory Audits.

The Department may perform an audit of the physical inventory of any licensee at the Department’s discretion. Variances between the physical audit and the inventory reflected in the track-and-trace system at the time of the audit, which cannot be attributed to normal moisture variations in harvested cannabis may be subject to enforcement action.


§ 8408. Notification of Diversion, Theft, Loss, or Criminal Activity.

Licensees shall notify the Department and law enforcement authorities, within 24 hours of discovery of any diversion, theft, loss of, or criminal activity related to licensee’s cannabis or nonmanufactured cannabis products.


Article 6. Inspections, Investigations and Audits
§ 8500. Applicability.

All licensees and applicants shall be subject to inspection, investigation or audit of licensed premises by state or local government officials to determine compliance with state laws and local ordinances. Failure to fully cooperate with inspections, investigations or audits is a license violation subject to enforcement.

Authority: Sections 19304 and 19332, Business and Professions Code and Section 11362.777, Health and Safety Code.
Reference: Sections 19307, 19311, 19312, 19327, and 19335 Business and Professions Code.

§ 8501. Inspections, Investigations and Audits.

(a) The Department shall conduct inspections, investigations and audits of licensees.

(b) An inspection, investigation or audit is a review of any books, records, accounts, inventory, or onsite operations specific to the license.

(c) The Department may record the inspection, investigation, or audit.

(d) The applicant or licensee shall allow the Department access to the proposed or licensed premises for any of the following purposes:

   (1) Onsite inspection of the premises prior to issuing a license to determine accuracy and completeness of the application.

   (2) Review or inspect the licensed cultivation site to determine compliance with license requirements including, but not limited to, the Cultivation Plan.

   (3) Audit or inspect records.

   (4) Conduct an inspection or investigation in response to a complaint(s) received by the Department regarding the licensee.

   (5) Inspect incoming or outgoing shipments of cannabis and nonmanufactured cannabis products.

   (6) Conduct an investigation of the licensee, the cultivation operations, and other activities associated with commercial cannabis activities engaged in by the licensee, as deemed necessary by the Department.

(e) All inspections, investigations and audits of the licensed premises shall be conducted during regular business hours, or during times of apparent activity, or as otherwise agreed to by the Department and the licensee. Prior notice of inspection, investigation or audit is not required.

(f) No applicant, licensee, its agent or employees shall interfere with, obstruct or impede the Department’s inspection, investigation or audit. This includes, but is not limited to the following actions:

   (1) Denying the Department access to the licensed premises;

   (2) Providing false or misleading statements;

   (3) Providing false, falsified, fraudulent or misleading documents and records; and
(4) Failing to provide records, reports, and other supporting documents.

(g) Upon completion of an inspection, investigation or audit, the Department shall notify the applicant or licensee of any violation(s) and/or action(s) the Department is taking.

Reference: Sections 19307, 19311, 19312, 19327, and 19335 Business and Professions Code.

Article 7. Enforcement

§ 8600. Applicability.
Notwithstanding any other provision of law the Department may take a licensing or administrative action, at any time within five years after the Department discovers, or with reasonable diligence should have discovered any violation of state law or local ordinances.

Authority: Sections 19304 and 19332, Business and Professions Code and Section 11362.777, Health and Safety Code.
Reference: Sections 19307, 19311, 19312, 19314, 19327, and 19332 Business and Professions Code.

§ 8601. Administrative Actions.
The Department shall use the violation classes and applicable amounts as follow:

(a) For the purpose of this section, violation classes are designated as “Serious,” “Moderate,” and “Minor”.

   (1) “Serious”. Violations which preclude or significantly interfere with enforcement, or those which cause significant false, misleading or deceptive business practices, potential for significant level of public or environmental harm, or for any violation which is a repeat of a Moderate violation that occurred within a two-year period and which resulted in an administrative civil penalty.

   (2) “Moderate”. Violations which undermine enforcement or those where it is likely there will be public or environmental harm; or for any violation which is a repeat of a Minor violation that occurred within a two-year period and which resulted in an administrative civil penalty.

   (3) “Minor”. Violations that are not likely to have an adverse effect on public safety or environmental health.

(b) Repeat violations may result in an escalation of violation class.

(c) Table A below shall be used to establish the level of severity of a particular violation and the corresponding penalty range for “Serious,” “Moderate,” and “Minor” violation classes. The administrative penalty shall not exceed $5,000 dollars for each violation, unless otherwise authorized by statute and indicated in Table A below.

Appendix A-41
<table>
<thead>
<tr>
<th>Authority</th>
<th>Description of Violation</th>
<th>Minor Fine Range</th>
<th>Moderate Fine Range</th>
<th>Serious Fine Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>BPC 19320 (a)</td>
<td>Licensee engaged in commercial cannabis activity with an unlicensed person.</td>
<td>-</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>BPC 19320 (b) HSC 11362.777 (b)</td>
<td>Licensee engaged in commercial cannabis activity prior to obtaining both a local license, permit, or other authorization and a state issued cultivation license.</td>
<td>-</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>BPC 19320 (c) HSC 11362.777 (b)</td>
<td>Licensee failed to obtain a local license, permit, or other authorization, and a state issued cultivation license for each location engaged in commercial cannabis activity.</td>
<td>-</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>BPC 19320 (d)</td>
<td>Licensee continued to operate after revocation of a local license, permit, or other authorization.</td>
<td>-</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>BPC 19326 (b)</td>
<td>Producing dispensary licensee failed to send all cannabis and nonmanufactured cannabis products to a distributor for pre-sale quality assurance and inspection by a distributor and for batch testing by a testing laboratory prior to distribution to a dispensary.</td>
<td>-</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>BPC 19327</td>
<td>Failure to maintain or provide records to Department.</td>
<td>-</td>
<td>-</td>
<td>X</td>
</tr>
</tbody>
</table>

(Per BPC §)
<table>
<thead>
<tr>
<th>Regulation</th>
<th>Description</th>
<th>19327 (f)</th>
<th>BPC 19328</th>
<th>BPC 19328 (b)</th>
<th>BPC 19332.2 (a)</th>
<th>BPC 19312 CCR 8113 (a)</th>
<th>BPC 19312 CCR 8113 (b)(1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BPC 19328</td>
<td>Licensee holds state issued licenses in more than 2 separate or allowable combinations pursuant to this section.</td>
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<tr>
<td>BPC 19328 (b)</td>
<td>Except as provided for in BPC 19328(a), licensee engaged in activities authorized by statute, but held an ownership interest in real property, personal property, or other assets associated with or used in another license category.</td>
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<tr>
<td>BPC 19332.2 (a)</td>
<td>Licensee used a water source that was not identified on their application.</td>
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</tr>
<tr>
<td>BPC 19312 CCR 8113 (a)</td>
<td>Failure to notify the Department in writing within 10 calendar days of changes to any item listed in the application.</td>
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<tr>
<td>BPC 19312 CCR 8113 (b)(1)</td>
<td>Failure to notify the Department in writing of a penalty or judgement of a criminal penalty or civil judgement rendered against the licensee within 48 hours of receiving a penalty or</td>
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</tbody>
</table>

These proposed regulations are being withdrawn because of the repeal of the Medical Cannabis Regulation and Safety Act (and replacement with the Medicinal and Adult-Use Regulation and Safety Act). They are presented here for informational purposes.
| BPC 19312  | CCR 8113 (b)(2) | Failure to notify the Department in writing of a revocation of a local license, permit, or other authorization within 48 hours of the revocation. | X |  |  |
| BPC 19312  | CCR 8113 (c) | Failure to submit a new application, as required, for a change to the business organizational structure or ownership. | - | X |  |
| BPC 19312  | CCR 8114 | Failure to file a request for premises modification with the Department associated with a physical modification of the licensed premises. | X | - |  |
| BPC 19312  | CCR 8116 (a) | Failure to surrender the license certificate or license certificates to the Department within 30 calendar days of notifying the Department of quitting the licensed premises. | X | - |  |
| BPC 19312  | CCR 8116 (a) | Failure to notify the Department within 30 calendar days of quitting or abandoning the licensed premises. | - | X |  |
| BPC 19312  | CCR 8117 (a) | Failure to provide the Department with a written waiver of sovereign immunity. | - | - | X |
| BPC 19312  | CCR 8117 (b) | Failure to notify the Department of any changes that may materially affect the applicant or licensee’s compliance with Section 8117 (a) of this Chapter. | - | - | X |
| BPC 19312  | CCR 8201 | Failure to prominently display license on licensed premises where it can be viewed by state and local agencies. | X | - |  |
| BPC 19312  |  | Licensee sold, bartered or donated. | - | - | X |
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<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>Failed</th>
<th>Corrected</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCR 8202 (d)</td>
<td>cannabis from their licensed premises to unlicensed premises.</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>BPC 19332 CCR 8203</td>
<td>Licensee total canopy size on licensed premises exceeded the total allowable canopy size for the license type.</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>BPC 19312 CCR 8206</td>
<td>Licensee located on the same property with other uniquely licensed premises failed to have a unique entrance and immovable physical barrier between their licensed premises and other licensed premises located on the same property.</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>BPC 19312 CCR 8207 (a)</td>
<td>Licensee holding multiple cultivation licenses commingled cannabis between or amongst their respective licensed cultivation premises.</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>BPC 19312 CCR 8207 (b)</td>
<td>Licensee transferred or received cannabis or nonmanufactured cannabis product from a licensee defined in Section 8203 (a), (b), (c) or (d) of this Chapter.</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>BPC 19312 CCR 8304 (a)</td>
<td>Failure to hold cannabis scheduled for destruction in the holding area identified in the licensee’s approved Cultivation Plan.</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>BPC 19312 CCR 8304 (b)</td>
<td>Failure to hold cannabis scheduled for destruction for 5 calendar days after notifying the Department of the intended destruction.</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>BPC 19312 CCR 8305 (a)</td>
<td>Licensee sold cannabis waste.</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>BPC 19312</td>
<td>Failure to dispose of cannabis waste as</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>------</td>
<td>----------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>CCR 8305 (c)</td>
<td>identified in the licensee’s approved Cultivation Plan.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BPC 19312 CCR 8305 (c)</td>
<td>Licensee disposed of cannabis waste in an unsecure waste receptacle.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>BPC 19312 CCR 8305 (d)</td>
<td>Failure to hold cannabis intended to be rendered into cannabis waste in the holding area designated in the licensee’s approved Cultivation Plan for a minimum of 72 hours.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>BPC 19312 CCR 8305 (d)</td>
<td>Licensee handled, moved, or rendered cannabis during 72 hour holding period.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>BPC 19312 CCR 8305 (e)</td>
<td>Failure to properly render cannabis unusable and unrecognizable.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>BPC 19312 CCR 8305 (e)</td>
<td>Licensee removed from the licensed premises cannabis intended to be rendered into cannabis waste before rendering.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>BPC 19312 CCR 8305 (e)</td>
<td>Failure to track rendered cannabis waste one batch at a time.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>BPC 19312 CCR 8305 (g)(1)</td>
<td>Failure to deposit cannabis waste at a manned and fully permitted solid waste landfill.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>BPC 19312 CCR 8305 (g)(2)</td>
<td>Failure to deposit cannabis waste at a manned solid waste operation or a manned fully permitted compostable materials handling facility.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>BPC 19312 CCR 8305 (g)(3)</td>
<td>Failure to deposit cannabis waste at a manned solid waste operation or a manned fully permitted in-vessel digestion facility.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>BPC 19312</td>
<td>Failure to use track-and-trace system</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>CCR 8305 (h)</td>
<td>and onsite documents to ensure the cannabis waste materials are identified, weighed, and tracked while on the licensed premises and when disposed of or deposited in accordance with Section 8305 (g) of this Chapter.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BPC 19312 CCR 8305 (i)</td>
<td>Failure to enter the date and time that the cannabis was rendered cannabis waste and the weight of the resulting cannabis waste into the track-and-trace system.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BPC 19312 CCR 8305 (j)</td>
<td>Failure to maintain accurate and comprehensive records regarding cannabis waste material that account for, reconcile, and evidence all activity related to the generation and disposal or disposition of cannabis waste.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BPC 19312 CCR 8305 (k)</td>
<td>Failure to enter the date and time of the disposal or deposit of the cannabis waste at a solid waste facility, compostable materials handling facility, or an in-vessel digestion facility into the track-and-trace system.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BPC 19312 CCR 8306 (a)</td>
<td>Failure to adhere to standards of cleanliness with respect to established pests of general distribution.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BPC 19312 CCR 8306 (b)</td>
<td>Failure to keep cannabis plants free of pests of limited distribution or pests not known to be established in the state.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BPC 19347 CCR 8307</td>
<td>Failure to comply with packaging requirements.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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<p>| BPC 19347 | CCR 8308 | Failure to comply with labeling requirements. | - | X | - |
| BPC 19312 | CCR 8309 (a) | Propagation of immature plants on licensee’s premises in area(s) not identified on the licensee’s approved Cultivation Plan. | - | X | - |
| 19312 | CCR 8309 (b) | Failure to maintain mother plants for propagation as immature plants. | - | X | - |
| 19312 | CCR 8309 (b) | Propagation of mother plants in area(s) not identified on the licensee’s approved Cultivation Plan. | - | X | - |
| BPC 19312 | CCR 8309 (c) | Mature plants located in the area(s) designated for propagation on licensee’s approved Cultivation Plan and the Department was not notified through the track-and-trace system. | - | - | X |
| BPC 19312 | CCR 8309 (d) | Failure to follow standard of cleanliness pursuant to Section 8306 of this Chapter for the production of immature plants. | - | X | - |
| BPC 19312 | CCR 8309 (e) | Producing cannabis seed for planting in area(s) on license premises not designated on licensee’s approved Cultivation Plan. | X | - | - |
| BPC 19335 (a) | HSC 11362.777 (e) | CCR 8309 (e) | Failure to properly apply UIDs to cannabis plants used for seed production. | X | - | - |
| BPC 19320 (c) | CCR 8309 (f) | Licensee propagating immature plants for distribution or seed for distribution without a Nursery license. | - | - | X |
| BPC 19312 | CCR 8310 (a) | Licensee processed cannabis on the licensed premises in an area(s) not | - | X | - |</p>
<table>
<thead>
<tr>
<th>BPC 19312</th>
<th>CCR 8311 (a)</th>
<th>designated for processing as identified on their approved Cultivation Plan.</th>
<th></th>
<th>X</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BPC 19320 (c)</td>
<td>CCR 8311 (a)</td>
<td>Failure to properly tag with UID mature plants maintained in the area on the licensed premises designated for research and development.</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>BPC 19312</td>
<td>CCR 8311 (b)</td>
<td>Licensee conducted research and development in non-designated areas as identified in their Cultivation Plan approved by the Department.</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>BPC 19320 (c)</td>
<td>CCR 8311 (c)</td>
<td>Licensee allowed nonmanufactured cannabis products to enter the commercial distribution chain without the appropriate cultivation license.</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>BPC 19347</td>
<td>CCR 8312 (a)</td>
<td>Failure to adhere to product packaging requirements pursuant to Section 8307 of this Chapter for aggregation of cannabis or nonmanufactured cannabis products for retail sale.</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BPC 19320 (c)</td>
<td>CCR 8312 (c)</td>
<td>Processor licensee cultivated cannabis plants on their licensed premises.</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>BPC 19312</td>
<td>CCR 8313 (a-f)</td>
<td>Failure to comply with specified environmental protection measures.</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>BPC 19312</td>
<td>CCR 8314</td>
<td>Failure to ensure that lights used for cultivation were shielded from sunset to sunrise.</td>
<td></td>
<td></td>
<td>X</td>
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<tr>
<td>BPC 19312</td>
<td>CCR 8315 (a-d)</td>
<td>Failure to comply with specified environmental protection measures.</td>
<td></td>
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<td>X</td>
</tr>
</tbody>
</table>

These proposed regulations are being withdrawn because of the repeal of the Medical Cannabis Regulation and Safety Act (and replacement with the Medicinal and Adult-Use Regulation and Safety Act). They are presented here for informational purposes.
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Action 1</th>
<th>Action 2</th>
<th>Action 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>BPC 19327 (b)</td>
<td>Failure to maintain all required records for a minimum of 7 years from the date they were created.</td>
<td>-</td>
<td>-</td>
<td>X</td>
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<tr>
<td>CCR 8400 (a)</td>
<td></td>
<td></td>
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<tr>
<td>BPC 19327 (d)</td>
<td>Failure to provide required records, requested by the Department, on premises of licensed location.</td>
<td>-</td>
<td>-</td>
<td>X</td>
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<tr>
<td>CCR 8400 (b)</td>
<td></td>
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<tr>
<td>BPC 19327 (a)</td>
<td>Failure to retain records of commercial cannabis activity.</td>
<td>-</td>
<td>-</td>
<td>X</td>
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<tr>
<td>CCR 8400 (c)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>BPC 19327 (d)</td>
<td>Licensee provided custodial or management services of record to a third-party without establishing a contract with the applicable third party.</td>
<td>-</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>CCR 8400 (d)</td>
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<tr>
<td>BPC 19327 (d)</td>
<td>Failure to maintain all required records.</td>
<td>-</td>
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<td>X</td>
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<tr>
<td>CCR 8400 (e)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>BPC 19327 (c)</td>
<td>Failure to maintain suitability of records for inspection by the Department.</td>
<td>X</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>CCR 8400 (f)</td>
<td></td>
<td></td>
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<tr>
<td>BPC 19335</td>
<td>Licensee failed to accurately and completely enter data and information into the track-and-trace system.</td>
<td>X</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>CCR 8401 (a)</td>
<td></td>
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</tr>
<tr>
<td>BPC 19335</td>
<td>Licensee falsified or misrepresented data or information entered into the track-and-trace system.</td>
<td>-</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>CCR 8401 (b)</td>
<td></td>
<td></td>
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<tr>
<td>BPC 19335</td>
<td>Failure to establish an account in the track-and-trace system prior to engaging in commercial cannabis activities.</td>
<td>-</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>CCR 8401 (c)(1)</td>
<td></td>
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<tr>
<td>BPC 19335</td>
<td>Licensee failed to designate licensee track-and-trace system administrator.</td>
<td>-</td>
<td>X</td>
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<tr>
<td>CCR 8401 (c)(2)</td>
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<tr>
<td>BPC 19335</td>
<td>Licensee failed to designate licensee track-and-trace system administrator to complete all required track-and-</td>
<td>-</td>
<td>X</td>
<td>-</td>
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<tr>
<td>CCR 8401 (c)(3)</td>
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<tr>
<td>Code</td>
<td>Description</td>
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<tr>
<td>BPC 19335 CCR 8401 (c)(4)</td>
<td>Licensee designated track-and-trace system administrator failed to properly train all licensee designated track-and-trace system users before the users were permitted to access the track-and-trace system.</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>BPC 19335 CCR 8401 (c)(5)</td>
<td>Failure to maintain an accurate and complete list of all track-and-trace system administrators and users.</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>BPC 19335 CCR 8401 (c)(6)</td>
<td>Failure to cancel a designated track-and-trace system administrator or user account when that individual is no longer a representative of the licensee or the designated administrator.</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>BPC 19327 (d) CCR 8401 (e)</td>
<td>Failure to prepare and maintain comprehensive records detailing all tracking inventory activities which occurred during a loss of access/connectivity to the track-and-trace system.</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>BPC 19335 HSC 11362.777 CCR 8402 (b)</td>
<td>Failure to use only UIDs issued by the Department, or the Department’s designee.</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>BPC 19335 HSC 11362.777 CCR 8402 (c)(1)</td>
<td>Licensee failed to properly apply UID to each lot of immature plants.</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>BPC 19335 HSC 11362.777 CCR 8402 (c)(2)</td>
<td>Licensee failed to properly apply UID to immature plants transported from a licensed nursery to a licensed cultivation site.</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>BPC 19335</td>
<td>Licensee failed to properly apply UID to immature plants.</td>
<td></td>
<td>X</td>
<td></td>
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<tr>
<td>Code</td>
<td>Description</td>
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<tr>
<td>HSC 11362.777 CCR 8402 (c)(2)</td>
<td>immature plants intended for retail sale.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BPC 19335 HSC 11362.777 CCR 8402 (c)(3)</td>
<td>Failure to apply UID to all individual plants at the time the plants were moved to the designated canopy area, identified in the licensee’s approved Cultivation Plan.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BPC 19335 HSC 11362.777 CCR 8402 (c)(3)</td>
<td>Licensee applied UID to an individual plant that was not associated with the UID from the lot of immature plants it was derived from.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BPC 19335 HSC 11362.777 CCR 8402 (c)(4)</td>
<td>Licensee failed to place the required UID at the base of the plant.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BPC 19312 CCR 8402 (d)</td>
<td>Failure to only package cannabis harvested from the same harvest batch.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>BPC 19335 HSC 11362.777 CCR 8402 (e)</td>
<td>Failure to retire UIDs in the track-and-trace system associated with the destruction or disposal of cannabis or nonmanufactured cannabis products.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BPC 19335 HSC 11362.777 CCR 8403 (c)</td>
<td>Mispresented or falsified data and information entered into the track-and-trace system.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BPC 19335 HSC 11362.777 CCR 8403 (d)</td>
<td>Failure to monitor notifications and/or resolve issues included in the notification in the time frame specified in the notification.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BPC 19335 HSC 11362.777 CCR 8404 (a)</td>
<td>Failure to report through the track-and-trace system, any and all transfers of cannabis or nonmanufactured cannabis products to another licensed entity.</td>
<td></td>
<td></td>
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<tr>
<td>Code</td>
<td>Description</td>
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</tr>
<tr>
<td>BPC 19312</td>
<td>Failure to report information at least 24 hours prior to entering a change in the disposition of cannabis plants on the licensed premises or transfer of any cannabis or nonmanufactured cannabis products to another licensed premises.</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>CCR 8404 (b)</td>
<td>Licensee failed to report all required information for each transfer of cannabis or nonmanufactured cannabis products to another licensee.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BPC 19335</td>
<td>Failure to reconcile all on-premises and in-transit cannabis or nonmanufactured cannabis product inventories per the time frames defined by the Department.</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>HSC 11362.777</td>
<td></td>
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<tr>
<td>CCR 8405 (a)</td>
<td></td>
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</tr>
<tr>
<td>BPC 19335</td>
<td>Failure to record the dry weight of all harvested cannabis once all drying and curing activities have been completed.</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>HSC 11362.777</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCR 8405 (b)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BPC 19335</td>
<td>Failure to timely and properly apply UIDs to each existing immature lot, individual mature plant, and nonmanufactured cannabis product physically located on the licensed premises on the date of license issuance. (This section shall become invalid on July 1, 2019.)</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>HSC 11362.777</td>
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<tr>
<td>CCR 8406</td>
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<tr>
<td>BPC 19335</td>
<td>Failure to timely and properly enter in the track-and-trace system the information associated with each existing immature lot, individual mature plant, and nonmanufactured cannabis product physically located on</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>HSC 11362.777</td>
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<tr>
<td>CCR 8406</td>
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<tr>
<td>Code</td>
<td>Description</td>
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</tr>
<tr>
<td>BPC 19312, CCR 8408</td>
<td>Failure to notify the Department and law enforcement authorities within 24 hours of discovery of any diversion, theft, loss of, or criminal activity related to licensee’s cannabis or nonmanufactured cannabis products.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BPC 19327 (e), CCR 8501 (d)</td>
<td>Failure to provide the Department with access to the proposed or licensed premises.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BPC 19327 (e), CCR 8501 (f)(1)</td>
<td>Applicant, licensee, its agent or employees denied the Department access to the licensed premises.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BPC 19327 (a), CCR 8501 (f)(2)</td>
<td>Licensee provided false or misleading statements.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BPC 19327 (a), CCR 8501 (f)(3)</td>
<td>Licensee provided false, falsified or misleading documents and records.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BPC 19327 (c), CCR 8501 (f)(4)</td>
<td>Failure to provide records, reports, and other supporting documents.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BPC 19312, CCR 8603 (b)</td>
<td>Failure to physically segregate all designated cannabis or nonmanufactured cannabis products subject to hold within 24 hours of receipt of the notice of administrative hold.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BPC 19312, CCR 8603 (d)</td>
<td>Licensee sold, donated, transferred, transported, or destroyed cannabis or nonmanufactured cannabis products subject to hold.</td>
<td></td>
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<tr>
<td></td>
<td>Failure to put all cannabis and</td>
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</tbody>
</table>
§ 8602. Notice of Violation.

The Department shall issue a Notice of Violation to licensees in violation of the applicable statutes and regulations. A copy of the Notice of Violation shall be served upon the licensee and legal owner of the property. The Notice of Violation shall contain all of the following:

(a) A brief statement of the violation(s) alleged;

(b) A statement of whether the violation is correctable, and a timeframe in which the violation shall be corrected; and

(c) Appeal rights and procedures as follows:

(1) Respondent’s right to a hearing will be deemed waived if respondent fails to respond in writing within 10 calendar days from the date the Notice of Violation was received by the respondent, or respondent’s agent for service.

(2) If applicable, notice of an administrative hold.

Reference: Sections 19307, 19311, 19312, 19314, 19327, and 19332 Business and Professions Code.

§ 8603. Administrative Hold Procedure.

To prevent destruction of evidence, illegal diversion of cannabis or nonmanufactured cannabis products, or to address potential threats to the environment or public safety, while allowing a licensee to retain its inventory pending further inspection, or enforcement action, the Department may order an administrative hold of cannabis or nonmanufactured cannabis products pursuant to the following procedure:

(a) The notice of administrative hold shall provide a documented description of the cannabis or nonmanufactured cannabis products to be subject to the administrative hold and a concise statement, regarding the basis for issuing the
administrative hold.

(b) Within 24 hours of receipt of the notice of administrative hold, the licensee shall physically segregate all designated cannabis or nonmanufactured cannabis products subject to the hold and shall safeguard and preserve the subject property as noticed.

(c) Following the issuance of a notice of administrative hold to the licensee, the Department shall identify the cannabis or nonmanufactured cannabis products subject to the administrative hold in the track-and-trace system.

(d) While the administrative hold is in effect, the licensee is restricted from selling, donating, transferring, transporting, or destroying the subject property noticed.

(e) Nothing herein shall prevent a licensee from the continued possession, cultivation, or harvesting of the cannabis subject to the administrative hold. During the hold period, all cannabis or nonmanufactured cannabis products subject to an administrative hold shall be put into separate batches.

(f) Nothing herein shall prevent a licensee from voluntarily surrendering cannabis or nonmanufactured cannabis products that are subject to an administrative hold. The licensee shall identify the cannabis or nonmanufactured cannabis products being voluntarily surrendered in the track-and-trace system. Voluntary surrender does not waive the right to a hearing and any associated rights.

(g) The licensee shall have the right to appeal an administrative hold ordered by the Department as required by Section 8604 of this Chapter, except the Department shall schedule an informal hearing within 10 calendar days from receipt of the request for an informal hearing and issue the written decision within 5 calendar days after the conclusion of the hearing.


Reference: Sections 19307, 19311, 19312, 19314, 19327, and 19332, Business and Professions Code.

§ 8604. Informal Administrative Hearings.

(a) The respondent may appeal a Notice of Violation or an administrative hold and request an informal hearing by written correspondence to the California Department of Food and Agriculture, Legal Office of Hearings and Appeals, 1220 “N” Street, Suite 400, Sacramento, California 95814 or via email to calcannabis@cdfa.ca.gov. The request shall be received within 30 calendar days from the date the Notice of Violation was received. The request shall include the following:

1. The respondent’s name, mailing address, and daytime phone number;

2. If applicable, the license number issued by the Department;

3. Copy of the Notice of Violation;

4. A clear and concise statement for the basis of the appeal or counts within the Notice of Violation; and

5. Choice of hearing in person, telephonic, record (written) hearing.
(b) Failure to submit a written request constitutes a waiver of the respondent's right to contest the Notice of Violation. Untimely requests for an informal hearing will not be considered.

(c) If the Notice of Violation places an administrative hold on cannabis or nonmanufactured cannabis products, the hold shall remain in effect pending the outcome of the informal hearing.

Authority: Sections 19304 and 19332 Business and Professions Code; Sections 11362.777, Health and Safety Code.
Reference: Sections 19307, 19311, 19312, 19314, 19327, and 19332 Business and Professions Code.

§ 8605. Informal Hearing Schedule and Notification.
(a) The Department shall schedule an informal hearing within 45 calendar days from receipt of the request for an informal hearing.

(b) The Department shall provide a notice of the informal hearing to the respondent containing the following information:

1) Date, location, and time of the informal hearing;
2) Summary of the violations;
3) Any other information or documentation necessary for the hearing; and
4) Standard of Proof.

Reference: Sections 19307, 19311, 19312, 19314, 19327, and 19335 Business and Professions Code.

§ 8606. Conduct of Informal Hearings.
Informal hearings shall be conducted as follows:

(a) The standard of proof to be applied by the hearing officer shall be preponderance of the evidence;

(b) Hearings may be conducted by phone at the request of the respondent;

(c) The decision of the hearing officer shall be in writing and shall include a statement of the factual legal basis of the decision;

(d) The written decision shall be issued within 30 days after the conclusion of the hearing and may be issued orally at the conclusion of the hearing subject to written confirmation;

(e) The decision shall be served on the respondent either by personal service, mail, email or via facsimile per respondent’s request/direction; and

(f) The respondent may appeal the hearing officer's decision by filing a petition for a writ of administrative mandamus in accordance with the provisions of the Section 1094.5 Code of Civil Procedure.
§ 8607. Licensing Actions.

(a) The Department may take a licensing action for any violations noted as “Serious” in Table A, or at the discretion of the Department.

(b) If the licensee holds multiple cultivation licenses, the Department may simultaneously revoke, suspend, or impose conditions upon some or all of the cultivation licenses held by licensee based on violations noted as “Serious” in Table A above, by taking any one of, or combination of the following actions:

   (1) Revocation of the license.
   (2) Suspension of the license for a specified period of time.
   (3) Issuance of a probationary license with terms and conditions determined by the Department.
   (4) Order an administrative hold of cannabis or nonmanufactured cannabis products.

§ 8608. Formal Administrative Hearings.

(a) Notice shall be given to the applicant or licensee of the Department’s intent to hold adjudication proceedings to consider the following disciplinary actions:

   (1) Denial of an application for a license;
   (2) Denial of a license renewal;
   (3) Revocation of a license; and
   (4) Suspension of a license for a specified period of time.

(b) Hearings concerning proceedings in (a) above shall be held in accordance with the provisions of Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code.

Reference: Sections 19307, 19311, 19312, and 19327 Business and Professions Code.
Appendix B

Comprehensive Medical Cannabis Regulation and Safety Act - 2016
Comprehensive
Medical Cannabis Regulation and Safety Act- 2016

Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

BUSINESS AND PROFESSIONS CODE

GENERAL PROVISIONS

27.
(a) Each entity specified in subdivisions (c), (d), and (e) shall provide on the Internet information regarding the status of every license issued by that entity in accordance with the California Public Records Act (Chapter 3.5 (commencing with Section 6250) of Division 7 of Title 1 of the Government Code) and the Information Practices Act of 1977 (Chapter 1 (commencing with Section 1798) of Title 1.8 of Part 4 of Division 3 of the Civil Code). The public information to be provided on the Internet shall include information on suspensions and revocations of licenses issued by the entity and other related enforcement action, including accusations filed pursuant to the Administrative Procedure Act (Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code) taken by the entity relative to persons, businesses, or facilities subject to licensure or regulation by the entity. The information may not include personal information, including home telephone number, date of birth, or social security number. Each entity shall disclose a licensee’s address of record. However, each entity shall allow a licensee to provide a post office box number or other alternate address, instead of his or her home address, as the address of record. This section shall not preclude an entity from also requiring a licensee, who has provided a post office box number or other alternative mailing address as his or her address of record, to provide a physical business address or residence address only for the entity’s internal administrative use and not for disclosure as the licensee’s address of record or disclosure on the Internet.

(b) In providing information on the Internet, each entity specified in subdivisions (c) and (d) shall comply with the Department of Consumer Affairs’ guidelines for access to public records.

(c) Each of the following entities within the Department of Consumer Affairs shall comply with the requirements of this section:

(1) The Board for Professional Engineers, Land Surveyors, and Geologists shall disclose information on its registrants and licensees.

(2) The Bureau of Automotive Repair shall disclose information on its licensees, including auto repair dealers, smog stations, lamp and brake stations, smog check technicians, and smog inspection certification stations.

(3) The Bureau of Electronic and Appliance Repair, Home Furnishings, and Thermal Insulation shall disclose information on its licensees and registrants, including major appliance repair dealers, combination dealers (electronic and appliance), electronic repair dealers, service contract sellers, and service contract administrators.

(4) The Cemetery and Funeral Bureau shall disclose information on its licensees, including cemetery brokers, cemetery salespersons, cemetery managers, crematory managers, cemetery authorities, crematories, cremated remains disposers, embalmers, funeral establishments, and funeral directors.

(5) The Professional Fiduciaries Bureau shall disclose information on its licensees.

(6) The Contractors' State License Board shall disclose information on its licensees and registrants in accordance with Chapter 9 (commencing with Section 7000) of Division 3. In addition to information related to licenses as specified in subdivision (a), the board shall also disclose information provided to the board by the Labor Commissioner pursuant to Section 98.9 of the Labor Code.

(7) The Bureau for Private Postsecondary Education shall disclose information on private postsecondary institutions under its jurisdiction, including disclosure of notices to comply issued pursuant to Section 94935 of the Education Code.

(8) The California Board of Accountancy shall disclose information on its licensees and registrants.

(9) The California Architects Board shall disclose information on its licensees, including architects and landscape architects.

(10) The State Athletic Commission shall disclose information on its licensees and registrants.

(11) The State Board of Barbering and Cosmetology shall disclose information on its licensees.

(12) The State Board of Guide Dogs for the Blind shall disclose information on its licensees and registrants.

(13) The Acupuncture Board shall disclose information on its licensees.

(14) The Board of Behavioral Sciences shall disclose information on its licensees, including licensed marriage and family therapists, licensed clinical social workers, licensed educational psychologists, and licensed professional clinical counselors.

(15) The Dental Board of California shall disclose information on its licensees.

(16) The State Board of Optometry shall disclose information regarding certificates of registration to practice optometry, statements of licensure, optometric corporation registrations, branch office licenses, and fictitious name permits of its licensees.
Comprehensive Medical Cannabis Regulation and Safety Act - 2016

Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

(17) The Board of Psychology shall disclose information on its licensees, including psychologists, psychological assistants, and registered psychologists.

(d) The State Board of Chiropractic Examiners shall disclose information on its licensees.

(e) The Structural Pest Control Board shall disclose information on its licensees, including applicators, field representatives, and operators in the areas of fumigation, general pest and wood destroying pests and organisms, and wood roof cleaning and treatment.

(f) The Bureau of Medical Cannabis Regulation shall disclose information on its licensees.

(g) “Internet” for the purposes of this section has the meaning set forth in paragraph (6) of subdivision (f) of Section 17538.

DIVISION 1. DEPARTMENT OF CONSUMER AFFAIRS
CHAPTER 1. THE DEPARTMENT (100-144.5)

101.
The department is comprised of the following:

(a) The Dental Board of California.

(b) The Medical Board of California.

(c) The State Board of Optometry.

(d) The California State Board of Pharmacy.

(e) The Veterinary Medical Board.

(f) The California Board of Accountancy.

(g) The California Architects Board.

(h) The Bureau of Barbering and Cosmetology.

(i) The Board for Professional Engineers and Land Surveyors.

(j) The Contractors’ State License Board.

(k) The Bureau for Private Postsecondary Education.

(l) The Bureau of Electronic and Appliance Repair, Home Furnishings, and Thermal Insulation.

(m) The Board of Registered Nursing.

(n) The Board of Behavioral Sciences.

(o) The State Athletic Commission.

(p) The Cemetery and Funeral Bureau.

(q) The State Board of Guide Dogs for the Blind.

(r) The Bureau of Security and Investigative Services.

(s) The Court Reporters Board of California.

(t) The Board of Vocational Nursing and Psychiatric Technicians.

(u) The Landscape Architects Technical Committee.

(v) The Division of Investigation.

(w) The Bureau of Automotive Repair.

(x) The Respiratory Care Board of California.

(y) The Acupuncture Board.

(z) The Board of Psychology.

(aa) The California Board of Podiatric Medicine.

(ab) The Physical Therapy Board of California.

(ac) The Arbitration Review Program.

(ad) The Physician Assistant Committee.

(ae) The Speech-Language Pathology and Audiology Board.

(af) The California Board of Occupational Therapy.

(ag) The Osteopathic Medical Board of California.

(ah) The Naturopathic Medicine Committee.

(ai) The Dental Hygiene Committee of California.

(aj) The Professional Fiduciaries Bureau.

(ak) The State Board of Chiropractic Examiners.

(al) The Bureau of Real Estate.

(am) The Bureau of Real Estate Appraisers.

(an) The Structural Pest Control Board.

(ao) The Bureau of Medical Cannabis Regulation.

(ap) Any other boards, offices, or officers subject to its jurisdiction by law.
144. Notwithstanding any other law, an agency designated in subdivision (b) shall require an applicant to furnish to the agency a full set of fingerprints for purposes of conducting criminal history record checks. Any agency designated in subdivision (b) may obtain and receive, at its discretion, criminal history information from the Department of Justice and the United States Federal Bureau of Investigation.

(b) Subdivision (a) applies to the following:
1. California Board of Accountancy.
2. State Athletic Commission.
3. Board of Behavioral Sciences.
4. Court Reporters Board of California.
6. California State Board of Pharmacy.
7. Board of Registered Nursing.
8. Veterinary Medical Board.
9. Board of Vocational Nursing and Psychiatric Technicians.
10. Respiratory Care Board of California.
11. Physical Therapy Board of California.
12. Physician Assistant Committee of the Medical Board of California.
13. Speech-Language Pathology and Audiology and Hearing Aid Dispenser Board.
14. Medical Board of California.
15. State Board of Optometry.
16. Acupuncture Board.
17. Cemetery and Funeral Bureau.
19. Division of Investigation.
20. Board of Psychology.
21. California Board of Occupational Therapy.
22. Structural Pest Control Board.
23. Contractors’ State License Board.
27. Bureau of Medical Cannabis Regulation.

(c) For purposes of paragraph (26) of subdivision (b), the term “applicant” shall be limited to an initial applicant who has never been registered or licensed by the board or to an applicant for a new licensure or registration category.

DIVISION 1. DEPARTMENT OF CONSUMER AFFAIRS
CHAPTER 3. FUNDS OF THE DEPARTMENT (200 – 211)

205.1. Notwithstanding subdivision (a) of Section 205, the Medical Cannabis Regulation and Safety Act Fund is a special fund within the Professions and Vocations Fund, and is subject to subdivision (b) of Section 205.

DIVISION 2. HEALING ARTS
CHAPTER 5. MEDICINE
ARTICLE 12. ENFORCEMENT (2220-2319)

2220.05. (a) In order to ensure that its resources are maximized for the protection of the public, the Medical Board of California shall prioritize its investigative and prosecutorial resources to ensure that physicians and surgeons representing the greatest threat of harm are identified and disciplined expeditiously. Cases involving any of the following allegations shall be handled on a priority basis, as follows, with the highest priority being given to cases in the first paragraph:
1. Gross negligence, incompetence, or repeated negligent acts that involve death or serious bodily injury to one or more patients, such that the physician and surgeon represents a danger to the public.
2. Drug or alcohol abuse by a physician and surgeon involving death or serious bodily injury to a patient.
3. Repeated acts of clearly excessive prescribing, furnishing, or administering of controlled substances, or repeated acts of prescribing, dispensing, or furnishing of controlled substances without a good faith prior examination of the patient and medical reason therefor. However, in no event shall a physician and surgeon prescribing.
Comprehensive
Medical Cannabis Regulation and Safety Act- 2016

Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

furnishing, or administering controlled substances for intractable pain consistent with lawful prescribing, including, but not limited to, Sections 725, 2241.5, and 2241.6 of this code and Sections 11159.2 and 124961 of the Health and Safety Code, be prosecuted for excessive prescribing and prompt review of the applicability of these provisions shall be made in any complaint that may implicate these provisions.

(4) Repeated acts of clearly excessive recommending of cannabis to patients for medical purposes, or repeated acts of recommending cannabis to patients for medical purposes without a good faith prior examination of the patient and a medical reason for the recommendation.

(5) Sexual misconduct with one or more patients during a course of treatment or an examination.

(6) Practicing medicine while under the influence of drugs or alcohol.

(b) The board may by regulation prioritize cases involving an allegation of conduct that is not described in subdivision (a). Those cases prioritized by regulation shall not be assigned a priority equal to or higher than the priorities established in subdivision (a).

(c) The Medical Board of California shall indicate in its annual report mandated by Section 2312 the number of temporary restraining orders, interim suspension orders, and disciplinary actions that are taken in each priority category specified in subdivisions (a) and (b).

2241.5. (a) A physician and surgeon may prescribe for, or dispense or administer to, a person under his or her treatment for a medical condition dangerous drugs or prescription controlled substances for the treatment of pain or a condition causing pain, including, but not limited to, intractable pain.

(b) No physician and surgeon shall be subject to disciplinary action for prescribing, dispensing, or administering dangerous drugs or prescription controlled substances in accordance with this section.

(c) This section shall not affect the power of the board to take any action described in Section 2227 against a physician and surgeon who does any of the following:

(1) Violates subdivision (b), (c), or (d) of Section 2234 regarding gross negligence, repeated negligent acts, or incompetence.

(2) Violates Section 2241 regarding treatment of an addict.

(3) Violates Section 2242 or 2525.3 regarding performing an appropriate prior examination and the existence of a medical indication for prescribing, dispensing, or furnishing dangerous drugs or recommending medical cannabis.

(4) Violates Section 2242.1 regarding prescribing on the Internet.

(5) Fails to keep complete and accurate records of purchases and disposals of substances listed in the California Uniform Controlled Substances Act (Division 10 (commencing with Section 11000) of the Health and Safety Code) or controlled substances scheduled in the federal Comprehensive Drug Abuse Prevention and Control Act of 1970 (21 U.S.C. Sec. 801 et seq.), or pursuant to the federal Comprehensive Drug Abuse Prevention and Control Act of 1970. A physician and surgeon shall keep records of his or her purchases and disposals of these controlled substances or dangerous drugs, including the date of purchase, the date and records of the sale or disposal of the drugs by the physician and surgeon, the name and address of the person receiving the drugs, and the reason for the disposal or the dispensing of the drugs to the person, and shall otherwise comply with all state recordkeeping requirements for controlled substances.

(6) Writes false or fictitious prescriptions for controlled substances listed in the California Uniform Controlled Substances Act or scheduled in the federal Comprehensive Drug Abuse Prevention and Control Act of 1970.

(7) Prescribes, administers, or dispenses in violation of this chapter, or in violation of Chapter 4 (commencing with Section 11150) or Chapter 5 (commencing with Section 11210) of Division 10 of the Health and Safety Code.

(d) A physician and surgeon shall exercise reasonable care in determining whether a particular patient or condition, or the complexity of a patient’s treatment, including, but not limited to, a current or recent pattern of drug abuse, requires consultation with, or referral to, a more qualified specialist.

(e) Nothing in this section shall prohibit the governing body of a hospital from taking disciplinary actions against a physician and surgeon pursuant to Sections 809.05, 809.4, and 809.5.

2242.1. (a) No person or entity may prescribe, dispense, or furnish, or cause to be prescribed, dispensed, or furnished, dangerous drugs or dangerous devices, as defined in Section 4022, on the Internet for delivery to any person in this state, without an appropriate prior examination and medical indication, except as authorized by Section 2242.

(b) Notwithstanding any other provision of law, a violation of this section may subject the person or entity that has committed the violation to either a fine of up to twenty-five thousand dollars ($25,000) per occurrence pursuant to a citation issued by the board or a civil penalty of twenty-five thousand dollars ($25,000) per occurrence.

(c) The Attorney General may bring an action to enforce this section and to collect the fines or civil penalties authorized by subdivision (b).

December 13, 2016; this document may not contain the most recent statute language

Page 4
Comprehensive Medical Cannabis Regulation and Safety Act- 2016

Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

(d) For notifications made on and after January 1, 2002, the Franchise Tax Board, upon notification by the Attorney General or the board of a final judgment in an action brought under this section, shall subtract the amount of the fine or awarded civil penalties from any tax refunds or lottery winnings due to the person who is a defendant in the action using the offset authority under Section 12419.5 of the Government Code, as delegated by the Controller, and the processes as established by the Franchise Tax Board for this purpose. That amount shall be forwarded to the board for deposit in the Contingent Fund of the Medical Board of California.

(e) If the person or entity that is the subject of an action brought pursuant to this section is not a resident of this state, a violation of this section shall, if applicable, be reported to the person’s or entity’s appropriate professional licensing authority.

(f) Nothing in this section shall prohibit the board from commencing a disciplinary action against a physician and surgeon pursuant to Section 2242 or 2525.3.

ARTICLE 25. RECOMMENDING MEDICAL CANNABIS (2525-2525.5)

2525. (a) It is unlawful for a physician and surgeon who recommends cannabis to a patient for a medical purpose to accept, solicit, or offer any form of remuneration from or to a facility issued a state license pursuant to Chapter 3.5 (commencing with Section 19300) of Division 8, if the physician and surgeon or his or her immediate family have a financial interest in that facility.

(b) For the purposes of this section, “financial interest” shall have the same meaning as in Section 650.01. A violation of this section shall be a misdemeanor punishable by up to one year in county jail and a fine of up to five thousand dollars ($5,000) or by civil penalties of up to five thousand dollars ($5,000) and shall constitute unprofessional conduct.

(c) A violation of this section shall be a misdemeanor punishable by up to one year in county jail and a fine of up to five thousand dollars ($5,000) or by civil penalties of up to five thousand dollars ($5,000) and shall constitute unprofessional conduct.

2525.1. The Medical Board of California shall consult with the California Marijuana Research Program, known as the Center for Medicinal Cannabis Research, authorized pursuant to Section 11362.9 of the Health and Safety Code, on developing and adopting medical guidelines for the appropriate administration and use of medical cannabis.

2525.2. An individual who possesses a license in good standing to practice medicine or osteopathy issued by the Medical Board of California or the Osteopathic Medical Board of California shall not recommend medical cannabis to a patient, unless that person is the patient’s attending physician, as defined by subdivision (a) of Section 11362.7 of the Health and Safety Code.

2525.3. Recommending medical cannabis to a patient for a medical purpose without an appropriate prior examination and a medical indication constitutes unprofessional conduct.

2525.4. It is unprofessional conduct for any attending physician recommending medical cannabis to be employed by, or enter into any other agreement with, any person or entity dispensing medical cannabis.

2525.5. (a) A person shall not distribute any form of advertising for physician recommendations for medical cannabis in California unless the advertisement bears the following notice to consumers:

NOTICE TO CONSUMERS: The Compassionate Use Act of 1996 ensures that seriously ill Californians have the right to obtain and use cannabis for medical purposes where medical use is deemed appropriate and has been recommended by a physician who has determined that the person’s health would benefit from the use of medical cannabis. Recommendations must come from an attending physician as defined in Section 11362.7 of the Health and Safety Code.

December 13, 2016; this document may not contain the most recent statute language
Comprehensive
Medical Cannabis Regulation and Safety Act- 2016

Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

Cannabis is a Schedule I drug according to the federal Controlled Substances Act. Activity related to cannabis use is subject to federal prosecution, regardless of the protections provided by state law.

(b) Advertising for attending physician recommendations for medical cannabis shall meet all of the requirements in Section 651. Price advertising shall not be fraudulent, deceitful, or misleading, including statements or advertisements of bait, discounts, premiums, gifts, or statements of a similar nature.

DIVISION 8. SPECIAL BUSINESS REGULATIONS
CHAPTER 3.5. MEDICAL CANNABIS REGULATION AND SAFETY ACT
ARTICLE 1. DEFINITIONS (19300 – 19300.7)

19300.
This act shall be known and may be cited as the Medical Cannabis Regulation and Safety Act.

19300.5.
For purposes of this chapter, the following definitions shall apply:

(a) “Accrediting body” means a nonprofit organization that requires conformance to ISO/IEC 17025 requirements and is a signatory to the International Laboratory Accreditation Cooperation Mutual Recognition Arrangement for Testing.

(b) “Applicant,” for purposes of Article 4 (commencing with Section 19320), includes the following:
   (1) Owner or owners of the proposed premises, including all persons or entities having ownership interest other than a security interest, lien, or encumbrance on property that will be used by the premises.
   (2) If the owner is an entity, “owner” includes within the entity each person participating in the direction, control, or management of, or having a financial interest in, the proposed premises.
   (3) If the applicant is a publicly traded company, “owner” means the chief executive officer or any person or entity with an aggregate ownership interest of 5 percent or more.

(c) “Batch” means a specific quantity of homogeneous medical cannabis or medical cannabis product and is one of the following types:
   (1) “Harvest batch” means a specifically identified quantity of dried flower or trim, leaves, and other cannabis plant matter that is uniform in strain, harvested at the same time, and, if applicable, cultivated using the same pesticides and other agricultural chemicals, and harvested at the same time.
   (2) “Manufactured cannabis batch” means either:
      (A) An amount of cannabis concentrate or extract produced in one production cycle using the same extraction methods and standard operating procedures, and is from the same harvest batch.
      (B) An amount of a type of manufactured cannabis produced in one production cycle using the same formulation and standard operating procedures.

(d) “Bureau” means the Bureau of Medical Cannabis Regulation within the Department of Consumer Affairs.

(e) “Cannabinoid” or “phytocannabinoid” means a chemical compound that is unique to and derived from cannabis.

(f) “Cannabis” means all parts of the plant Cannabis sativa Linnaeus, Cannabis indica, or Cannabis ruderalis, whether growing or not; the seeds thereof; the resin, whether crude or purified, extracted from any part of the plant; and every compound, manufacture, salt, derivative, mixture, or preparation of the plant, its seeds, or resin. “Cannabis” also means the separated resin, whether crude or purified, obtained from cannabis. “Cannabis” also means marijuana as defined by Section 11018 of the Health and Safety Code as enacted by Chapter 1407 of the Statutes of 1972. “Cannabis” does not include the mature stalks of the plant, fiber produced from the stalks, oil or cake made from the seeds of the plant, any other compound, manufacture, salt, derivative, mixture, or preparation of the mature stalks (except the resin extracted therefrom), fiber, oil, or cake, or the sterilized seed of the plant which is incapable of germination. For the purpose of this chapter, “cannabis” does not mean “industrial hemp” as defined by Section 81000 of the Food and Agricultural Code or Section 11018.5 of the Health and Safety Code.

(g) “Cannabis concentrate” means manufactured cannabis that has undergone a process to concentrate one or more active cannabinoids, thereby increasing the product’s potency. Resin from granular trichomes from a cannabis plant is a concentrate for purposes of this chapter. A cannabis concentrate is not considered food, as defined by Section 109935 of the Health and Safety Code, or a drug, as defined by Section 109925 of the Health and Safety Code.

(h) “Certificate of accreditation” means a certificate issued by an accrediting body to a testing laboratory.

(i) “Chief” means Chief of the Bureau of Medical Cannabis Regulation within the Department of Consumer Affairs.

(j) “Commercial cannabis activity” includes cultivation, possession, manufacture, processing, storing, laboratory testing, labeling, transporting, distribution, delivery, or sale of medical cannabis or a medical cannabis product, except as set forth in Section 19319, related to qualifying patients and primary caregivers.

(k) “Cultivation” means any activity involving the planting, growing, harvesting, drying, curing, grading, or trimming of medical cannabis.

December 13, 2016; this document may not contain the most recent statute language
Comprehensive
Medical Cannabis Regulation and Safety Act- 2016

Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

(l) “Cultivation site” means a location where medical cannabis is planted, grown, harvested, dried, cured, graded, or trimmed, or that does all or any combination of those activities.

(m) “Delivery” means the commercial transfer of medical cannabis or medical cannabis products from a dispensary, up to an amount determined by the bureau to a primary caregiver or qualified patient as defined in Section 11362.7 of the Health and Safety Code, or a testing laboratory. “Delivery” also includes the use by a dispensary of any technology platform owned and controlled by the dispensary, or independently licensed under this chapter, that enables qualified patients or primary caregivers to arrange for or facilitate the commercial transfer by a licensed dispensary of medical cannabis or medical cannabis products.

(n) “Dispensary” means a premises where medical cannabis, medical cannabis products, or devices for the use of medical cannabis or medical cannabis products are offered, either individually or in any combination, for retail sale, including an establishment that delivers, pursuant to Section 19340, medical cannabis and medical cannabis products as part of a retail sale.

(o) “Dispensing” means any activity involving the retail sale of medical cannabis or medical cannabis products from a dispensary.

(p) “Distribution” means the procurement, sale, and transport of medical cannabis and medical cannabis products between entities licensed pursuant to this chapter.

(q) “Distributor” means a person licensed under this chapter to engage in the business of purchasing medical cannabis from a licensed cultivator, or medical cannabis products from a licensed manufacturer, for sale to a licensed dispensary.

(r) “Dried flower” means all dead medical cannabis that has been harvested, dried, cured, or otherwise processed, excluding leaves and stems.

(s) “Edible cannabis product” means manufactured cannabis that is intended to be used, in whole or in part, for human consumption, including, but not limited to, chewing gum, but excluding products set forth in Division 15 (commencing with Section 32501) of the Food and Agricultural Code. An edible medical cannabis product is not considered food as defined by Section 109935 of the Health and Safety Code or a drug as defined by Section 109925 of the Health and Safety Code.

(t) “Fund” means the Medical Cannabis Regulation and Safety Act Fund established pursuant to Section 19351.

(u) “Identification program” means the universal identification certificate program for commercial medical cannabis activity authorized by this chapter.

(v) “Labeling” means any label or other written, printed, or graphic matter upon a medical cannabis product, or upon its container or wrapper, or that accompanies any medical cannabis product.

(w) “Labor peace agreement” means an agreement between a licensee and a bona fide labor organization that, at a minimum, protects the state’s proprietary interests by prohibiting labor organizations and members from engaging in picketing, work stoppages, boycotts, and any other economic interference with the applicant’s business. This agreement means that the applicant has agreed not to disrupt efforts by the bona fide labor organization to communicate with, and attempt to organize and represent, the applicant’s employees. The agreement shall provide a bona fide labor organization access at reasonable times to areas in which the applicant’s employees work, for the purpose of meeting with employees to discuss their right to representation, employment rights under state law, and terms and conditions of employment. This type of agreement shall not mandate a particular method of election or certification of the bona fide labor organization.

(x) “Licensee” means a person issued a state license under this chapter to engage in commercial cannabis activity.

(y) “Licensing authority” means the state agency responsible for the issuance, renewal, or reinstatement of the license.

(z) “Live plants” means living medical cannabis flowers and plants, including seeds, immature plants, and vegetative stage plants.

(aa) “Local license, permit, or other authorization” means an official document granted by a local jurisdiction that specifically authorizes a person to conduct commercial cannabis activity in the local jurisdiction.

(ab) “Lot” means a batch or a specifically identified portion of a batch.

(ac) “Manufactured cannabis” means raw cannabis that has undergone a process whereby the raw agricultural product has been transformed into a concentrate, an edible product, or a topical product.

(ad) “Manufacturer” means a person that conducts the production, preparation, propagation, or compounding of manufactured medical cannabis, as described in subdivision (ae), or medical cannabis products either directly or indirectly or by extraction methods, or independently by means of chemical synthesis or by a combination of extraction and chemical synthesis at a fixed location that packages or repackages medical cannabis or medical cannabis products or labels or relabels its container.

(ae) “Manufacturing site” means the premises that produces, prepares, propagates, or compounds manufactured medical cannabis or medical cannabis products, directly or indirectly, by extraction methods, independently by means of chemical synthesis, or by a combination of extraction and chemical synthesis, and is owned and operated by a licensee for these activities.

#af) “Medical cannabis,” “medical cannabis product,” or “cannabis product” means a product containing cannabis, including, but not limited to, concentrates and extractions, intended to be sold for use by medical cannabis patients in California.
Comprehensive
Medical Cannabis Regulation and Safety Act- 2016

pursuant to the Compassionate Use Act of 1996 (Proposition 215), found at Section 11362.5 of the Health and Safety Code. For the purposes of this chapter, “medical cannabis” does not include “industrial hemp” as defined by Section 81000 of the Food and Agricultural Code or Section 11018.5 of the Health and Safety Code.

(ag) “Nursery” means a licensee that produces only clones, immature plants, seeds, and other agricultural products used specifically for the planting, propagation, and cultivation of medical cannabis.

(ah) “Person” means an individual, firm, partnership, joint venture, association, corporation, limited liability company, estate, trust, business trust, receiver, syndicate, or any other group or combination acting as a unit and includes the plural as well as the singular number.

(ai) “Primary caregiver” has the same meaning as that term is defined in Section 11362.7 of the Health and Safety Code.

(aj) “State license” or “license” means a state license issued pursuant to this chapter.

(ak) “Testing laboratory” means the premises where tests are performed on medical cannabis or medical cannabis products and that holds a valid certificate of accreditation.

(al) “Topical cannabis” means a product intended for external use. A topical cannabis product is not considered a drug as defined by Section 109925 of the Health and Safety Code.

(am) “Transport” means the transfer of medical cannabis or medical cannabis products from the permitted business location of one licensee to the permitted business location of another licensee, for the purposes of conducting commercial cannabis activity authorized pursuant to this chapter.

(an) “Transporter” means a person who holds a license by the bureau to transport medical cannabis or medical cannabis products in an amount above a threshold determined by the bureau between licensees that have been issued a license pursuant to this chapter.

19300.7.
License classifications pursuant to this chapter are as follows:

(a) Type 1 = Cultivation; Specialty outdoor; Small.
(b) Type 1A = Cultivation; Specialty indoor; Small.
(c) Type 1B = Cultivation; Specialty mixed-light; Small.
(d) Type 2 = Cultivation; Outdoor; Small.
(e) Type 2A = Cultivation; Indoor; Small.
(f) Type 2B = Cultivation; Mixed-light; Small.
(g) Type 3 = Cultivation; Outdoor; Medium.
(h) Type 3A = Cultivation; Indoor; Medium.
(i) Type 3B = Cultivation; Mixed-light; Medium.
(j) Type 4 = Cultivation; Nursery.
(k) Type 5 = Manufactured 1.
(l) Type 6 = Manufacturer 2.
(m) Type 7 = Testing laboratory.
(n) Type 8 = Dispensary; General.
(o) Type 10A = Producing Dispensary; No more than three retail sites.
(p) Type 11 = Distributor.
(q) Type 12 = Transporter.

ARTICLE 2. ADMINISTRATION (19302 – 19310)

19302.
There is in the Department of Consumer Affairs the Bureau of Medical Cannabis Regulation, under the supervision and control of the director. The director shall administer and enforce the provisions of this chapter related to the bureau.

19302.1.
(a) The Governor shall appoint a chief of the bureau, subject to confirmation by the Senate, at a salary to be fixed and determined by the Director of Consumer Affairs with the approval of the Director of Finance. The chief shall serve under the direction and supervision of the director and at the pleasure of the Governor.

(b) Every power granted to or duty imposed upon the Director of Consumer Affairs under this chapter may be exercised or performed in the name of the director by a deputy or assistant director or by the chief, subject to conditions and limitations that the director may prescribe. In addition to every power granted or duty imposed with this chapter, the director shall have all other powers and duties generally applicable in relation to bureaus that are part of the Department of Consumer Affairs.
Comprehensive
Medical Cannabis Regulation and Safety Act- 2016

Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

(c) The Director of Consumer Affairs may employ and appoint all employees necessary to properly administer the work of the bureau, in accordance with civil service laws and regulations. The Governor may also appoint a deputy chief and an assistant chief counsel to the bureau. These positions shall hold office at the pleasure of the Governor.

(d) The Department of Consumer Affairs shall have the sole authority to create, issue, renew, discipline, suspend, or revoke licenses for the transportation, storage unrelated to manufacturing activities, testing, distribution, and sale of medical cannabis within the state and to collect fees in connection with activities the bureau regulates. The bureau shall have the authority to create licenses in addition to those identified in this chapter that the bureau deems necessary to effectuate its duties under this chapter.

(e) The Department of Food and Agriculture shall administer the provisions of this chapter related to and associated with the cultivation of medical cannabis and will serve as lead agency for the purpose of fulfilling the requirements of the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code). The Department of Food and Agriculture shall have the authority to create, issue, renew, discipline, suspend, or revoke licenses for the cultivation of medical cannabis and to collect fees in connection with activities it regulates. The Department of Food and Agriculture shall have the authority to create licenses in addition to those identified in this chapter that it deems necessary to effectuate its duties under this chapter.

(f) The State Department of Public Health shall administer the provisions of this chapter related to and associated with the manufacturing of medical cannabis. The State Department of Public Health shall have the authority to create, issue, renew, discipline, suspend, or revoke licenses for the manufacturing of medical cannabis and medical cannabis products and to collect fees in connection with activities it regulates. The State Department of Public Health shall have the authority to create licenses in addition to those identified in this chapter that it deems necessary to effectuate its duties under this chapter.

19303. Protection of the public shall be the highest priority for all licensing authorities in exercising its licensing, regulatory, and disciplinary functions under this chapter. Whenever the protection of the public is inconsistent with other interests sought to be promoted, the protection of the public shall be paramount.

19304. The licensing authorities shall make and prescribe rules and regulations as may be necessary or proper to carry out the purposes and intent of this chapter and to enable each licensing authority to exercise the powers and duties conferred upon it by this chapter, not inconsistent with any statute of this state, including particularly this chapter and Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code. For the performance of its duties, each licensing authority has the power conferred by Sections 11180 to 11191, inclusive, of the Government Code.

(b) Each licensing authority may adopt emergency regulations to implement this chapter.

(1) Each licensing authority may readopt any emergency regulation authorized by this section that is the same as, or substantially equivalent to, an emergency regulation previously adopted by this section. Any such readoption shall be limited to one time for each regulation.

(2) Notwithstanding any other law, the initial adoption of emergency regulations and the readoption of emergency regulations authorized by this section shall be deemed an emergency and necessary for the immediate preservation of the public peace, health, safety, or general welfare. The initial emergency regulations and the readopted emergency regulations authorized by this section shall be each submitted to the Office of Administrative Law for filing with the Secretary of State and shall remain in effect for no more than 180 days, by which time final regulations may be adopted.

19305. Notice of any action of a licensing authority required by this chapter to be given may be signed and given by the director of the licensing authority or an authorized employee of the licensing authority and may be made personally or in the manner prescribed by Section 1013 of the Code of Civil Procedure, or in the manner prescribed by Section 124 of this code.

19306. The bureau may convene an advisory committee to advise the bureau and licensing authorities on the development of standards and regulations pursuant to this chapter, including best practices and guidelines to ensure qualified patients have adequate access to medical cannabis and medical cannabis products. The advisory committee members shall be determined by the chief.

(b) The advisory committee members may include, but not be limited to, representatives of the medical cannabis industry, representatives of medical cannabis cultivators, appropriate local and state agencies, appropriate local and state law enforcement, physicians, environmental and public health experts, and medical cannabis patient advocates.
Comprehensive Medical Cannabis Regulation and Safety Act - 2016

Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

19307. A licensing authority may make or cause to be made such investigation as it deems necessary to carry out its duties under this chapter. A licensing authority may work with state and local law enforcement agencies on investigations and enforcement actions pertaining to licenses.

For any hearing held pursuant to this chapter, the director, or a licensing authority, may delegate the power to hear and decide to an administrative law judge. Any hearing before an administrative law judge shall be pursuant to the procedures, rules, and limitations prescribed in Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code.

19308. For any hearing held pursuant to this chapter, the director, or a licensing authority, may delegate the power to hear and decide to an administrative law judge. Any hearing before an administrative law judge shall be pursuant to the procedures, rules, and limitations prescribed in Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code.

19309. In any hearing before a licensing authority pursuant to this chapter, the licensing authority may pay any person appearing as a witness at the hearing at the request of the licensing authority pursuant to a subpoena, his or her actual, necessary, and reasonable travel, food, and lodging expenses, not to exceed the amount authorized for state employees.

19310. A licensing authority may on its own motion at any time before a penalty assessment is placed into effect and without any further proceedings, review the penalty, but such review shall be limited to its reduction.

ARTICLE 3. ENFORCEMENT (19311 – 19319)

19311. Grounds for disciplinary action: include, but are not limited to, the following:
(a) Failure to comply with the provisions of this chapter or any rule or regulation adopted pursuant to this chapter.
(b) Conduct that constitutes grounds for denial of licensure pursuant to Chapter 3 (commencing with Section 490) of Division 1.5.
(c) Any other grounds contained in regulations adopted by a licensing authority pursuant to this chapter.
(d) Failure to comply with any state law, except as provided for in this chapter or other California law.
(e) Failure to maintain safe conditions for inspection by a licensing authority.
(f) Failure to comply with any operating procedure submitted to the licensing authority pursuant to subdivision (b) of Section 19322.

19312. (a)
(1) Each licensing authority may suspend, revoke, place on probation with terms and conditions, or otherwise discipline licenses issued by that licensing authority and fine a licensee, after proper notice and hearing to the licensee, if the licensee is found to have committed any of the acts or omissions constituting grounds for disciplinary action.
(2) A licensing authority may revoke a license when a local agency has notified the licensing authority that a licensee or applicant within its jurisdiction is in violation of state rules and regulation relating to commercial cannabis activities, and the licensing authority, through an investigation, has determined that the violation is grounds for termination or revocation of the license.

(b) The disciplinary proceedings under this chapter shall be conducted in accordance with Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code, and the director and agency head, as that term is defined in Section 11405.40 of the Government Code, of each licensing authority shall have all the powers granted therein.

(c) Each licensing authority may take disciplinary action and assess fines against its respective licensees for any violation of this chapter when the violation was committed by the licensee’s agent or employee while acting on behalf of the licensee or engaged in commercial cannabis activity.
(d) A licensing authority may recover the costs of investigation and enforcement of a disciplinary proceeding pursuant to Section 125.3 of this code.

19313.5. Upon suspension or revocation of a license, the licensing authority shall inform the bureau. The bureau shall then inform all other licensing authorities and the Department of Food and Agriculture.

December 13, 2016; this document may not contain the most recent statute language.
Page 10
Comprehensive
Medical Cannabis Regulation and Safety Act - 2016

Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

19314. All accusations against licensees shall be filed by the licensing authority within five years after the performance of the act or omission alleged as the ground for disciplinary action; provided, however, that the foregoing provision shall not constitute a defense to an accusation alleging fraud or misrepresentation as a ground for disciplinary action. The cause for disciplinary action in such case shall not be deemed to have accrued until discovery, by the licensing authority, of the facts constituting the fraud or misrepresentation, and, in such case, the accusation shall be filed within five years after such discovery.

19315. (a) Nothing in this chapter shall be interpreted to supersede or limit existing local authority for law enforcement activity, enforcement of local zoning requirements or local ordinances, or enforcement of local license, permit, or other authorization requirements.
(b) Nothing in this chapter shall be interpreted to require a licensing authority to undertake local law enforcement responsibilities, enforce local zoning requirements, or enforce local licensing, permitting, or other authorization requirements.
(c) Nothing in this chapter shall be interpreted to supersede or limit state agencies from exercising their existing enforcement authority under the Fish and Game Code, the Water Code, the Food and Agricultural Code, or the Health and Safety Code.

19316. (a) Pursuant to Section 7 of Article XI of the California Constitution, a city, county, or city and county may adopt ordinances that establish additional standards, requirements, and regulations for local licenses and permits for commercial cannabis activity. Any standards, requirements, and regulations regarding health and safety, testing, security, and worker protections established by the state shall be the minimum standards for all licensees statewide.
(b) For facilities issued a state license that are located within the incorporated area of a city, the city shall have full power and authority to enforce this chapter and the regulations promulgated by the bureau or any licensing authority, if delegated by the state. Notwithstanding Sections 101375, 101400, and 101405 of the Health and Safety Code or any contract entered into pursuant thereto, or any other law, the city shall further assume complete responsibility for any regulatory function relating to those licensees within the city limits that would otherwise be performed by the county or any county officer or employee, including a county health officer, without liability, cost, or expense to the county.
(c) Nothing in this chapter, or any regulations promulgated thereunder, shall be deemed to limit the authority or remedies of a city, county, or city and county under any provision of law, including, but not limited to, Section 7 of Article XI of the California Constitution.

19317. (a) The actions of a licensee, its employees, and its agents that are (1) permitted pursuant to both a state license and a license or permit issued by the local jurisdiction following the requirements of the applicable local ordinances, and (2) conducted in accordance with the requirements of this chapter and regulations adopted pursuant to this chapter, are not unlawful under state law and shall not be an offense subject to arrest, prosecution, or other sanction under state law, or be subject to a civil fine or be a basis for seizure or forfeiture of assets under state law.
(b) The actions of a person who, in good faith, allows his or her property to be used by a licensee, its employees, and its agents, as permitted pursuant to both a state license and a local license or permit following the requirements of the applicable local ordinances, are not unlawful under state law and shall not be an offense subject to arrest, prosecution, or other sanction under state law, or be subject to a civil fine or be a basis for seizure or forfeiture of assets under state law.

19319. (a) A qualified patient, as defined in Section 11362.7 of the Health and Safety Code, who cultivates, possesses, stores, manufactures, or transports cannabis exclusively for his or her personal medical use but who does not provide, donate, sell, or distribute cannabis to any other person is not thereby engaged in commercial cannabis activity and is therefore exempt from the licensure requirements of this chapter.
(b) A primary caregiver who cultivates, possesses, stores, manufactures, transports, donates, or provides cannabis exclusively for the personal medical purposes of no more than five specified qualified patients for whom he or she is the primary caregiver within the meaning of Section 11362.7 of the Health and Safety Code, but who does not receive remuneration for these activities except for compensation in full compliance with subdivision (c) of Section 11362.765 of the Health and Safety Code, is exempt from the licensure requirements of this chapter.

ARTICLE 4. LICENSING (19320 – 19325)

19320. (a) All commercial cannabis activity shall be conducted between licensees, except as otherwise provided in this chapter.
Comprehensive Medical Cannabis Regulation and Safety Act- 2016

Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

(b) Licensing authorities administering this chapter may issue state licenses only to qualified applicants engaging in commercial cannabis activity pursuant to this chapter. Upon the date of implementation of regulations by the licensing authority, no person shall engage in commercial cannabis activity without possessing both a state license and a local permit, license, or other authorization. A licensee shall not commence activity under the authority of a state license until the applicant has obtained, in addition to the state license, a local license, permit, or other authorization from the local jurisdiction in which he or she proposes to operate, following the requirements of the applicable local ordinance.

(c) Each licensee shall obtain a separate license for each location where it engages in commercial medical cannabis activity. However, transporters only need to obtain licenses for each physical location where the licensee conducts business while not in transport or where any equipment that is not currently transporting medical cannabis or medical cannabis products permanently resides.

(d) Revocation of a local license, permit, or other authorization shall terminate the ability of a medical cannabis business to operate within that local jurisdiction until the local jurisdiction reinstates or reissues the local license, permit, or other authorization. Local authorities shall notify the bureau upon revocation of a local license, permit, or other authorization. The bureau shall inform relevant licensing authorities.

(e) Revocation of a state license shall terminate the ability of a medical cannabis licensee to operate within California until the licensing authority reinstates or reissues the state license.

(f) In addition to the provisions of this chapter, local jurisdictions retain the power to assess fees and taxes, as applicable, on facilities that are licensed pursuant to this chapter and the business activities of those licensees.

(g) Nothing in this chapter shall be construed to supersede or limit state agencies, including the Department of Food and Agriculture, the State Water Resources Control Board, and the Department of Fish and Wildlife, from establishing fees to support their medical cannabis regulatory programs.

19321.

(a) A license issued pursuant to this chapter shall be valid for 12 months from the date of issuance. The license shall be renewed annually. Each licensing authority shall establish procedures for the renewal of a license.

(b) Notwithstanding subdivision (b) of Section 19320, the premises or person that is operating in compliance with local zoning ordinances and other state and local requirements on or before January 1, 2018, may continue its operations until its application for licensure is approved or denied pursuant to this chapter only if (1) a completed application and all required documentation and approvals for licensure are submitted to the licensing authority no later than the deadline established by the licensing authority and (2) the applicant continues to operate in compliance with all local and state requirements, except possession of a state license pursuant to this chapter. In issuing licenses, the licensing authority shall prioritize any premises or person that can demonstrate to the authority’s satisfaction that the premises or person was in operation and in good standing with the local jurisdiction by January 1, 2016.

(c) Issuance of a state license or a determination of compliance with local law by the licensing authority shall in no way limit the ability of the City of Los Angeles to prosecute any person or entity for a violation of, or otherwise enforce, Proposition D, approved by the voters of the City of Los Angeles on the May 21, 2013, ballot for the city, or the city’s zoning laws. Nor may issuance of a license or determination of compliance with local law by the licensing authority be deemed to establish, or be relied upon, in determining satisfaction with the immunity requirements of Proposition D or local zoning law, in court or in any other context or forum.

19322.

(a) A person shall not submit an application for a state license issued by a licensing authority pursuant to this chapter unless that person has received a license, permit, or authorization from the local jurisdiction. An applicant for any type of state license issued pursuant to this chapter shall do all of the following:

(1) Electronically submit to the Department of Justice fingerprint images and related information required by the Department of Justice for the purpose of obtaining information as to the existence and content of a record of state or federal convictions and arrests, and information as to the existence and content of a record of state or federal convictions and arrests for which the Department of Justice establishes that the person is free on bail or on his or her own recognizance, pending trial or appeal.

(A) The Department of Justice shall provide a response to the licensing authority pursuant to paragraph (1) of subdivision (p) of Section 11105 of the Penal Code.

(B) The licensing authority shall request from the Department of Justice subsequent notification service, as provided pursuant to Section 11105.2 of the Penal Code, for applicants.

(C) The Department of Justice shall charge the applicant a fee sufficient to cover the reasonable cost of processing the requests described in this paragraph.

(2) Provide documentation issued by the local jurisdiction in which the proposed business is operating certifying that the applicant is or will be in compliance with all local ordinances and regulations.
Comprehensive
Medical Cannabis Regulation and Safety Act- 2016

Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

(3) Provide evidence of the legal right to occupy and use the proposed location. For an applicant seeking a cultivator, distributor, manufacturing, testing, transporter, or dispensary license, provide a statement from the owner of real property or their agent where the cultivation, distribution, manufacturing, testing, transport, or dispensing of commercial medical cannabis activities will occur, as proof to demonstrate the landowner has acknowledged and consented to permit cultivation, distribution, manufacturing, testing, transport, or dispensary activities to be conducted on the property by the tenant applicant.

(4) If the application is for a cultivator or a dispensary, provide evidence that the proposed location is located beyond at least a 600-foot radius from a school, as required by Section 11362.768 of the Health and Safety Code.

(5) Provide a statement, signed by the applicant under penalty of perjury, that the information provided is complete, true, and accurate.

(6)
   (A) For an applicant with 20 or more employees, provide a statement that the applicant will enter into, or demonstrate that it has already entered into, and abide by the terms of a labor peace agreement.
   (B) For the purposes of this paragraph, “employee” does not include a supervisor.
   (C) For purposes of this paragraph, “supervisor” means an individual having authority, in the interest of the licensee, to hire, transfer, suspend, lay off, recall, promote, discharge, assign, reward, or discipline other employees, or responsibility to direct them or to adjust their grievances, or effectively to recommend such action, if, in connection with the foregoing, the exercise of that authority is not of a merely routine or clerical nature, but requires the use of independent judgment.
   (D) For an applicant seeking a cultivation license, provide a statement declaring the applicant is an “agricultural employer,” as defined in the Alatorre-Zenovich-Dunlap-Berman Agricultural Labor Relations Act of 1975 (Part 3.5 (commencing with Section 1140) of Division 2 of the Labor Code), to the extent not prohibited by law.
   (E) Any collective bargaining agreement that is in force on the date the application is made, the licensing authority shall include, but not be limited to, the following:
      (1) Cultivation.
      (2) Extraction and infusion methods.
      (3) The transportation process.
      (4) Inventory procedures.
      (5) Quality control procedures.
      (6) Security protocols.

19323.
   (a) A licensing authority shall deny an application if the applicant or the premises for which a state license is applied does not qualify for licensure under this chapter or the rules and regulations for the state license.
   (b) A licensing authority may deny an application for licensure or renewal of a state license, or issue a conditional license, if any of the following conditions apply:
      (1) Failure to comply with the provisions of this chapter or any rule or regulation adopted pursuant to this chapter, including but not limited to, any requirement imposed to protect natural resources, instream flow, and water quality pursuant to subdivision (a) of Section 19332.
      (2) Conduct that constitutes grounds for denial of licensure pursuant to Chapter 2 (commencing with Section 480) of Division 1.5.
      (3) The applicant has failed to provide information required by the licensing authority.
      (4) The applicant or licensee has been convicted of an offense that is substantially related to the qualifications, functions, or duties of the business or profession for which the application is made, except that if the licensing authority determines that the applicant or licensee is otherwise suitable to be issued a license and granting the license would not compromise public safety, the licensing authority shall conduct a thorough review of the nature of the crime, conviction, circumstances, and evidence of rehabilitation of the applicant, and shall evaluate the suitability of the applicant or licensee to be issued a license based on the evidence found through the review. In determining which offenses are substantially related to the qualifications, functions, or duties of the business or profession for which the application is made, the licensing authority shall include, but not be limited to, the following:

December 13, 2016; this document may not contain the most recent statute language
Page 13

Appendix B-13
This statute has been replaced with the Medicinal and Adult-Use Regulation and Safety Act (included in this PEIR as Appendix H), but is presented here for informational purposes.

Comprehensive Medical Cannabis Regulation and Safety Act - 2016

Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

(A) A felony conviction for the illegal possession for sale, sale, manufacture, transportation, or cultivation of a controlled substance.

(B) A violent felony conviction, as specified in subdivision (c) of Section 667.5 of the Penal Code.

(C) A serious felony conviction, as specified in subdivision (c) of Section 1192.7 of the Penal Code.

(D) A felony conviction involving fraud, deceit, or embezzlement.

(5) The applicant, or any of its officers, directors, or owners, is a licensed physician making patient recommendations for medical cannabis pursuant to Section 11362.7 of the Health and Safety Code.

(6) The applicant or any of its officers, directors, or owners has been subject to fines or penalties for cultivation or production of a controlled substance on public or private lands pursuant to Section 12025 or 12025.1 of the Fish and Game Code.

(7) The applicant, or any of its officers, directors, or owners, has been sanctioned by a licensing authority or a city, county, or city and county for unlicensed commercial cannabis activities or has had a license revoked under this chapter in the three years immediately preceding the date the application is filed with the licensing authority.

(8) Failure to obtain and maintain a valid seller’s permit required pursuant to Part 1 (commencing with Section 6001) of Division 2 of the Revenue and Taxation Code.

(9) The applicant or any of its officers, directors, owners, employees, or authorized agents have failed to comply with any operating procedure required pursuant to subdivision (b) of Section 19322.

(10) Conduct that constitutes grounds for disciplinary action pursuant to this chapter.

19324. Upon the denial of any application for a license, the licensing authority shall notify the applicant in writing. Within 30 days of service of the notice, the applicant may file a written petition for a license with the licensing authority. Upon receipt of a timely filed petition, the licensing authority shall set the petition for hearing. The hearing shall be conducted in accordance with Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code, and the director of each licensing authority shall have all the powers granted therein.

19325. An applicant shall not be denied a state license if the denial is based solely on any of the following:

(a) A conviction or act that is substantially related to the qualifications, functions, or duties of the business or profession for which the application is made for which the applicant or licensee has obtained a certificate of rehabilitation pursuant to Chapter 3.5 (commencing with Section 4852.01) of Title 6 of Part 3 of the Penal Code.

(b) A conviction that was subsequently dismissed pursuant to Section 1203.4, 1203.4a, or 1203.41 of the Penal Code.

ARTICLE 5. MEDICAL MARIJUANA REGULATION (19326 – 19330)

19326. A person other than a transporter shall not transport medical cannabis or medical cannabis products from one licensee to another licensee, unless otherwise specified in this chapter.

(b) (1) All cultivators, manufacturers, and licensees holding a producing dispensary license in addition to a cultivation or manufacturing license shall send all medical cannabis and medical cannabis products cultivated or manufactured to a distributor, as defined in Section 19300.5, for presale quality assurance and inspection by a distributor and for a batch testing by a testing laboratory prior to distribution to a dispensary.

(2) Notwithstanding paragraph (1), a cultivator shall not be required to send medical cannabis to a distributor if the medical cannabis is to be used, sold, or otherwise distributed by methods approved pursuant to this chapter by a manufacturer for further manufacturing.

(c) (1) Upon receipt of medical cannabis or medical cannabis products, from a cultivator, manufacturer, or a licensee holding a producing dispensary license in addition to a cultivation or a manufacturing license, the distributor shall first inspect the product to ensure the identity and quantity of the product and ensure a random sample of the medical cannabis or medical cannabis product is tested by a testing laboratory.

(2) Upon issuance of a certificate of analysis by the testing laboratory that the product is fit for dispensing medical cannabis and medical cannabis products shall undergo a quality assurance review by the distributor prior to distribution to ensure the quality and content of the medical cannabis or medical cannabis product, and for tracking and taxation purposes by the state.

(3) This section does not limit the ability of licensed cultivators, manufacturers, and dispensaries to directly enter into contracts with one another indicating the price and quantity of medical cannabis or medical cannabis products to be distributed. However, a distributor responsible for executing the contract is authorized to collect a fee for the services provided.
Comprehensive
Medical Cannabis Regulation and Safety Act- 2016
Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

rendered, including, but not limited to, costs incurred by a testing laboratory, as well as applicable state or local taxes and fees.

(d) Medical cannabis and medical cannabis products shall be tested by a licensed testing laboratory, prior to dispensing, pursuant to Section 19344.

(e) This chapter shall not prohibit a licensee from performing testing on the licensee’s premises for the purposes of quality assurance of the product in conjunction with reasonable business operations. On-site testing by the licensee shall not be certified by the Bureau of Medical Cannabis Regulation.

19327.
(a) A licensee shall keep accurate records of commercial cannabis activity.
(b) All records related to commercial cannabis activity shall be maintained for a minimum of seven years.
(c) Licensing authorities may examine the records of licensees and inspect the premises of a licensee as the licensing authority or a state or local agency deems necessary to perform its duties under this chapter. All inspections and examination of records shall be conducted during standard business hours of the licensed facility or at any other reasonable time. Licensees shall provide and deliver records to the licensing authority upon request.
(d) Licensees shall keep records identified by the licensing authorities on the premises of the location licensed.
(e) A licensee or its agent, or employee that refuses, impedes, obstructs, or interferes with an inspection of the premises or records of the licensee pursuant to this section has engaged in a violation of this chapter.
(f) If a licensee, its agent, or an employee of a licensee fails to maintain or provide the records required pursuant to this section, the licensee may be subject to a citation and fine of thirty thousand dollars ($30,000) per individual violation.

19328.
(a) Except as provided in paragraphs (9) and (10), a licensee may only hold a state license in up to two separate license categories, as follows:
1. Type 1, 1A, 1B, 2, 2A, or 2B licensees may also hold either a Type 6 or 7 state license.
2. Type 6 or 7 licensees, or a combination thereof, may also hold either a Type 1, 1A, 1B, 2, 2A, or 2B state license.
3. Type 6 or 7 licensees, or a combination thereof, may also hold a Type 10A state license.
4. Type 10A licensees may also hold either a Type 6 or 7 state license, or a combination thereof.
5. Type 1, 1A, 1B, 2, 2A, or 2B licensees, or a combination thereof, may also hold a Type 10A state license.
6. Type 10A licensees may hold a Type 1, 1A, 1B, 2, 2A, or 2B state license, or a combination thereof.
7. Type 11 licensees shall also hold a Type 12 state license, but shall not hold any other type of state license.
8. Type 12 licensees may hold a Type 11 state license.
9. A Type 10A licensee may hold a Type 6 or 7 state license and may also hold a 1, 1A, 1B, 2, 2A, 2B, 3, 3A, 3B, 4 or combination thereof if, under the 1, 1A, 1B, 2, 2A, 2B, 3, 3A, 3B, or combination of licenses thereof, no more than four acres of total canopy size of cultivation by the licensee is occurring throughout the state during the period that the respective licenses are valid. All cultivation pursuant to this section shall comply with local ordinances. This paragraph shall become inoperative on January 1, 2026.
10. All cultivators and manufacturers may hold a Type 12 transporter license. All cultivators and manufacturers who are issued Type 12 transporter licenses shall comply with the following:
   (A) Cultivators shall only transport medical cannabis from a cultivation site to a manufacturer or a distributor.
   (B) Manufacturers shall only transport medical cannabis and medical cannabis products as follows:
      (i) Between a cultivation site and a manufacturing site.
      (ii) Between a manufacturing site and a manufacturing site.
      (iii) Between a manufacturing site and a distributor.
(b) Except as provided in subdivision (a), a person or entity that holds a state license is prohibited from licensure for any other activity authorized under this chapter, and is prohibited from holding an ownership interest in real property, personal property, or other assets associated with or used in any other license category.
(c) In a jurisdiction that adopted a local ordinance, prior to July 1, 2015, requiring qualified businesses to cultivate, manufacture, and dispense medical cannabis or medical cannabis products, with all commercial cannabis activity being conducted by a single qualified business, upon licensure that business shall not be subject to subdivision (a) if it meets all of the following conditions:
   (A) The business was cultivating, manufacturing, and dispensing medical cannabis or medical cannabis products on, January 1, 2016, and has continuously done so since that date.
   (B) The business has been in full compliance with all applicable local ordinances at all times prior to licensure.
   (C) The business is registered with the State Board of Equalization for tax purposes.

December 13, 2016; this document may not contain the most recent statute language
Comprehensive
Medical Cannabis Regulation and Safety Act- 2016

Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

(2) A business licensed pursuant to paragraph (1) is not required to conduct all cultivation or manufacturing within the bounds of a local jurisdiction, but all cultivation and manufacturing shall have commenced prior to January 1, 2016, and have been in full compliance with applicable local ordinances.

(d) This section shall remain in effect only until January 1, 2026, and as of that date is repealed.

19329.
A licensee shall not also be licensed as a retailer of alcoholic beverages pursuant to Division 9 (commencing with Section 23000).

19330.
This chapter and Article 2 (commencing with Section 11357) and Article 2.5 (commencing with Section 11362.7) of Chapter 6 of Division 10 of the Health and Safety Code shall not interfere with an employer’s rights and obligations to maintain a drug and alcohol free workplace or require an employer to permit or accommodate the use, consumption, possession, transfer, display, transportation, sale, or growth of cannabis in the workplace or affect the ability of employers to have policies prohibiting the use of cannabis by employees and prospective employees, or prevent employers from complying with state or federal law.

ARTICLE 6. LICENSED CULTIVATION SITES (19332 – 19333)

19332.
(a) The Department of Food and Agriculture shall promulgate regulations governing the licensing of indoor and outdoor commercial cultivation sites.

(b) The Department of Pesticide Regulation shall develop guidelines for the use of pesticides in the cultivation of cannabis and residue in harvested cannabis.

(c) The Department of Food and Agriculture shall serve as the lead agency for purposes of the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) related to the licensing of cannabis cultivation.

(d) Pursuant to Section 13149 of the Water Code, the State Water Resources Control Board, in consultation with the Department of Fish and Wildlife and the Department of Food and Agriculture, shall ensure that individual and cumulative effects of water diversion and discharge associated with cultivation of cannabis do not affect the instream flows needed for fish spawning, migration, and rearing, and the flows needed to maintain natural flow variability.

(e) The Department of Food and Agriculture shall have the authority necessary for the implementation of the regulations it adopts pursuant to this chapter. The regulations shall do all of the following:

(1) Provide that weighing or measuring devices used in connection with the sale or distribution of medical cannabis are required to meet standards equivalent to Division 5 (commencing with Section 12001).

(2) Require that cannabis cultivation by licensees is conducted in accordance with state and local laws. Nothing in this chapter, and no regulation adopted by the department, shall be construed to supersede or limit the authority of the State Water Resources Control Board, regional water quality control boards, or the Department of Fish and Wildlife to implement and enforce their statutory obligations or to adopt regulations to protect water quality, water supply, and natural resources.

(3) Establish procedures for the issuance and revocation of unique identifiers for activities associated with a cannabis cultivation license, pursuant to Article 8 (commencing with Section 19337). All cannabis shall be labeled with the unique identifier issued by the Department of Food and Agriculture.

(4) Prescribe standards, in consultation with the bureau, for the reporting of information as necessary related to unique identifiers, pursuant to Article 8 (commencing with Section 19337).

(f) The Department of Pesticide Regulation shall require that the application of pesticides or other pest control in connection with the indoor or outdoor cultivation of medical cannabis complies with Division 6 (commencing with Section 11401) of the Food and Agricultural Code and its implementing regulations.

(g) State cultivator license types issued by the Department of Food and Agriculture may include:

(1) Type 1, or “specialty outdoor,” for outdoor cultivation using no artificial lighting of less than or equal to 5,000 square feet of total canopy size on one premises, or up to 50 mature plants on noncontiguous plots.

(2) Type 1A, or “specialty indoor,” for indoor cultivation using exclusively artificial lighting of between 501 and 5,000 square feet of total canopy size on one premises.

(3) Type 1B, or “specialty mixed-light,” for cultivation using a combination of natural and supplemental artificial lighting at a maximum threshold to be determined by the licensing authority, of between 501 and 5,000 square feet of total canopy size on one premises.

(4) Type 1C, or “specialty cottage,” for cultivation using a combination of natural and supplemental artificial light at a maximum threshold to be determined by the licensing authority, of 2,500 square feet or less of total canopy size for
mixed-light cultivation, up to 25 mature plants for outdoor cultivation, or 500 square feet or less of total canopy size for indoor cultivation, on one premises.

(5) Type 2, or “small outdoor,” for outdoor cultivation using no artificial lighting between 5,001 and 10,000 square feet, inclusive, of total canopy size on one premises.

(6) Type 2A, or “small indoor,” for indoor cultivation using exclusively artificial lighting between 5,001 and 10,000 square feet, inclusive, of total canopy size on one premises.

(7) Type 2B, or “small mixed-light,” for cultivation using a combination of natural and supplemental artificial lighting at a maximum threshold to be determined by the licensing authority, between 5,001 and 10,000 square feet, inclusive, of total canopy size on one premises.

(8) Type 3, or “outdoor,” for outdoor cultivation using no artificial lighting from 10,001 square feet to one acre, inclusive, of total canopy size on one premises. The Department of Food and Agriculture shall limit the number of licenses allowed of this type.

(9) Type 3A, or “indoor,” for indoor cultivation using exclusively artificial lighting between 10,001 and 22,000 square feet, inclusive, of total canopy size on one premises. The Department of Food and Agriculture shall limit the number of licenses allowed of this type.

(10) Type 4, or “nursery,” for cultivation of medical cannabis solely as a nursery. Type 4 licensees may transport live plants, if the licensee also holds a Type 12 transporter license issued pursuant to this chapter.

19332.2.
(a) An application for a license for indoor or outdoor cultivation shall identify the source of water supply.

(1) (A) If water will be supplied by a retail water supplier, as defined in Section 13575 of the Water Code, the application shall identify the retail water supplier.

(B) Paragraphs (2) and (3) shall not apply to any water subject to subparagraph (A) unless the retail water supplier has 10 or fewer customers, the applicant receives 10 percent or more of the water supplied by the retail water supplier, 25 percent or more of the water delivered by the retail water supplier is used for cannabis cultivation, or the applicant and the retail water supplier are affiliates, as defined in Section 2814.20 of Title 23 of the California Code of Regulations.

(2) If the water supply includes a diversion within the meaning of Section 5100 of the Water Code, the application shall identify the point of diversion and maximum amount to be diverted.

(3) If water will be supplied from a groundwater extraction not subject to paragraph (2), the application shall identify the location of the extraction and the maximum amount to be diverted for cannabis cultivation in any year.

(b) An application for a license issued by the Department of Food and Agriculture before January 1, 2020, shall include one of the following:

(1) A copy of a registration, permit, or license issued under Part 2 (commencing with Section 1200) of Division 2 of the Water Code that covers the diversion.

(2) A copy of a statement of water diversion and use, filed with the State Water Resources Control Board before July 1, 2017, that covers the diversion and specifies the amount of water used for cannabis cultivation.

(3) A copy of a pending application for a permit to appropriate water, filed with the State Water Resources Control Board before July 1, 2017.

(4) Documentation, submitted to the State Water Resources Control Board before July 1, 2017, establishing that the diversion is subject to subdivision (a), (c), (d) or (e) of Section 5101 of the Water Code.

(5) Documentation, submitted to the State Water Resources Control Board before July 1, 2017, establishing that the diversion is authorized under a riparian right and that no diversion occurred after January 1, 2010, and before January 1, 2017.

(c) An application for a cultivation license issued after December 31, 2019, shall include one of the following:

(1) A copy of a registration, permit, or license issued under Part 2 (commencing with Section 1200) of Division 2 of the Water Code that covers the diversion.

(2) A copy of a statement of water diversion and use, filed with the State Water Resources Control Board, that covers the diversion.

(3) Documentation, submitted to the State Water Resources Control Board, establishing that the diversion is subject to subdivision (a), (c), (d) or (e) of Section 5101 of the Water Code.
Comprehensive

Medical Cannabis Regulation and Safety Act - 2016

Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

(4) Documentation, submitted to the State Water Resources Control Board, establishing that the diversion is authorized under a riparian right and that no diversion occurred in any calendar year between January 1, 2010, and the calendar year in which the application is submitted.

(d) The Department of Food and Agriculture shall include in any license for cultivation requirements for compliance with applicable principles, guidelines, and requirements established under Section 13149 of the Water Code.

(e) The Department of Food and Agriculture shall include in any license for cultivation any relevant mitigation requirements the Department of Food and Agriculture identifies as part of its approval of the final environmental documentation for the cannabis cultivation licensing program as requirements that should be included in a license for cultivation. Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code does not apply to the identification of these mitigation measures.

(f) Every license for cultivation shall include a condition that the license shall not be effective until the licensee has complied with Section 1602 of the Fish and Game Code or receives written verification from the Department of Fish and Wildlife that a streambed alteration agreement is not required.

(g) The Department of Food and Agriculture shall consult with the State Water Resources Control Board and the Department of Fish and Wildlife in the implementation of this section.

19332.5.
(a) Not later than January 1, 2020, the Department of Food and Agriculture shall make available a certified organic designation and organic certification program for medical cannabis cultivation, if permitted under federal law and the National Organic Program (Section 6517 of the federal Organic Foods Production Act of 1990 (7 U.S.C. Sec. 6501 et seq.)), and Article 7 (commencing with Section 110810) of Chapter 5 of Part 5 of Division 104 of the Health and Safety Code.

(b) The Department of Food and Agriculture may establish appellations of origin for cannabis grown in California.

(c) It is unlawful for medical cannabis to be marketed, labeled, or sold as grown in a California county when the medical cannabis was not grown in that county.

(d) It is unlawful to use the name of a California county in the labeling, marketing, or packaging of medical cannabis products unless the product was grown in that county.

19333.
An employee engaged in commercial cannabis cultivation activity shall be subject to Wage Order 4-2001 of the Industrial Welfare Commission.

ARTICLE 7. LICENSED DISTRIBUTORS, DISPENSARIES, AND TRANSPORTERS (19334 – 19334)

19334.
(a) State licenses to be issued by the Department of Consumer Affairs are as follows:

(1) "Dispensary," Type 10 license as defined in this chapter. This license shall allow for delivery pursuant to Section 19340.

(2) "Distributor," Type 11 license for the distribution of medical cannabis and medical cannabis products from manufacturer to dispensary. A distributor licensee shall hold a Type 12 or transporter license. Each location where product is stored for the purposes of distribution must be individually licensed. A distributor licensee shall not hold a license in a cultivation, manufacturing, dispensing, or testing license category and shall not own, or have an ownership interest in, premises licensed in those categories other than a security interest, lien, or encumbrance on property that is used by a licensee. A distributor shall be bonded and insured at a minimum level established by the licensing authority.

(3) "Producing dispensary," Type 10A for dispensaries who have no more than three licensed dispensary facilities and wish to hold either a cultivation or manufacturing license or both. This license shall allow for delivery where expressly authorized by local ordinance. Each dispensary must be individually licensed.

(4) "Transport," Type 12 license for transporters of medical cannabis or medical cannabis products between licensees. A Type 12 licensee shall be bonded and insured at a minimum level established by the licensing authority.

(b) The bureau shall establish minimum security requirements for the commercial transportation, storage, and delivery of medical cannabis and medical cannabis products.

(c) The State Department of Public Health shall establish minimum security requirements for the storage of medical cannabis products at the manufacturing site.

(d) A licensed dispensary shall implement sufficient security measures to both deter and prevent unauthorized entrance into areas containing medical cannabis or medical cannabis products and theft of medical cannabis or medical cannabis products at the dispensary. These security measures shall include, but not be limited to, all of the following:

(1) Preventing individuals from remaining on the premises of the dispensary if they are not engaging in activity expressly related to the operations of the dispensary.

December 13, 2016; this document may not contain the most recent statute language
Page 18
(2) Establishing limited access areas accessible only to authorized dispensary personnel.
(3) Storing all finished medical cannabis and medical cannabis products in a secured and locked room, safe, or vault, and in a manner as to prevent diversion, theft, and loss, except for limited amounts of cannabis used for display purposes, samples, or immediate sale.
(e) A dispensary shall notify the licensing authority and the appropriate law enforcement authorities within 24 hours after discovering any of the following:
(1) Significant discrepancies identified during inventory. The level of significance shall be determined by the bureau.
(2) Diversion, theft, loss, or any criminal activity pertaining to the operation of the dispensary.
(3) Diversion, theft, loss, or any criminal activity by any agent or employee of the dispensary pertaining to the operation of the dispensary.
(4) The loss or unauthorized alteration of records related to medical cannabis or medical cannabis products, registered qualifying patients, primary caregivers, or dispensary employees or agents.
(5) Any other breach of security.

ARTICLE 7.5 UNIQUE IDENTIFIER AND TRACK AND TRACE PROGRAM (19335 – 19336)

19335.
(a) The Department of Food and Agriculture, in consultation with the bureau, shall establish a track and trace program for the movement of medical cannabis items throughout the distribution chain that utilizes a unique identifier pursuant to Section 11362.777 of the Health and Safety Code and secure packaging and is capable of providing information that captures, at a minimum, all of the following:
(1) The licensee receiving the product.
(2) The transaction date.
(3) The cultivator from which the product originates, including the associated unique identifier, pursuant to Section 11362.777 of the Health and Safety Code.

(b) The Department of Food and Agriculture, in consultation with the State Board of Equalization, shall create an electronic database containing the electronic shipping manifests to facilitate the administration of the track and trace program, which shall include, but not be limited to, the following information:
(A) The quantity, or weight, and variety of products shipped.
(B) The estimated times of departure and arrival.
(C) The quantity, or weight, and variety of products received.
(D) The actual time of departure and arrival.
(E) A categorization of the product.
(F) The license number and the unique identifier pursuant to Section 11362.777 of the Health and Safety Code issued by the licensing authority for all licensees involved in the shipping process, including, but not limited to, cultivators, manufacturers, transporters, distributors, and dispensaries.

(2) The database shall be designed to flag irregularities for all licensing authorities in this chapter to investigate. All licensing authorities pursuant to this chapter may access the database and share information related to licensees under this chapter, including social security and individual taxpayer identifications notwithstanding Section 30.
(B) The Department of Food and Agriculture shall immediately inform the bureau upon the finding of an irregularity or suspicious finding related to a licensee, applicant, or commercial cannabis activity for investigatory purposes.
(3) Licensing authorities and state and local agencies may, at any time, inspect shipments and request documentation for current inventory.
(4) The bureau shall have 24-hour access to the electronic database administered by the Department of Food and Agriculture. The State Board of Equalization shall have read access to the electronic database for the purpose of taxation and regulation of medical cannabis and medical cannabis products.
(5) The Department of Food and Agriculture shall be authorized to enter into memoranda of understandings with licensing authorities for data sharing purposes, as deemed necessary by the Department of Food and Agriculture.
(6) Information received and contained in records kept by the Department of Food and Agriculture or licensing authorities for the purposes of administering this chapter are confidential and shall not be disclosed pursuant to the California Public Records Act (Chapter 3.5 (commencing with Section 6250) of Division 7 of Title 1 of the Government Code), except as necessary for authorized employees of the State of California or any city, county, or city and county to perform official duties pursuant to this chapter or a local ordinance.
(7) Upon the request of a state or local law enforcement agency, licensing authorities shall allow access to or provide information contained within the database to assist law enforcement in their duties and responsibilities pursuant to this chapter.

December 13, 2016; this document may not contain the most recent statute language
Page 19
19336.
(a) Chapter 4 (commencing with Section 55121) of Part 30 of Division 2 of the Revenue and Taxation Code shall apply with respect to the bureau’s collection of the fees, civil fines, and penalties imposed pursuant to this chapter.
(b) Chapter 8 (commencing with Section 55381) of Part 30 of Division 2 of the Revenue and Taxation Code shall apply with respect to the disclosure of information under this chapter.

ARTICLE 8. LICENSED TRANSPORTERS (19337 – 19338)

19337.
(a) A licensee authorized to transport medical cannabis and medical cannabis products between licenses shall do so only as set forth in this chapter.
(b) Prior to transporting medical cannabis or medical cannabis products, a licensed transporter of medical cannabis or medical cannabis products shall do both of the following:
   (1) Complete an electronic shipping manifest as prescribed by the licensing authority. The shipping manifest must include the unique identifier, pursuant to Section 11362.777 of the Health and Safety Code, issued by the Department of Food and Agriculture for the original cannabis product.
   (2) Securely transmit the manifest to the bureau and the licensee that will receive the medical cannabis product. The bureau shall inform the Department of Food and Agriculture of information pertaining to commercial cannabis activity for the purpose of the track and trace program identified in Section 19335.
(c) During transportation, the licensed transporter shall maintain a physical copy of the shipping manifest and make it available upon request to agents of the Department of Consumer Affairs and law enforcement officers.
(d) The licensee receiving the shipment shall maintain each electronic shipping manifest and shall make it available upon request to the Department of Consumer Affairs and any law enforcement officers.
(e) Upon receipt of the transported shipment, the licensee receiving the shipment shall submit to the licensing agency a record verifying receipt of the shipment and the details of the shipment.
(f) Transporting, or arranging for or facilitating the transport of, medical cannabis or medical cannabis products in violation of this chapter is grounds for disciplinary action against the license.

19338.
(a) This chapter shall not be construed to authorize or permit a licensee to transport or cause to be transported cannabis or cannabis products outside the state, unless authorized by federal law.
(b) A local jurisdiction shall not prevent transportation of medical cannabis or medical cannabis products on public roads by a licensee transporting medical cannabis or medical cannabis products in compliance with this chapter.

ARTICLE 9. DELIVERY (19340 – 19340)

19340.
(a) Deliveries, as defined in this chapter, can only be made by a dispensary and in a city, county, or city and county that does not explicitly prohibit it by local ordinance.
(b) Upon approval of the licensing authority, a licensed dispensary that delivers medical cannabis or medical cannabis products shall comply with both of the following:
   (1) The city, county, or city and county in which the licensed dispensary is located, and in which each delivery is made, do not explicitly by ordinance prohibit delivery, as defined in Section 19300.5.
   (2) All employees of a dispensary delivering medical cannabis or medical cannabis products shall carry a copy of the dispensary’s current license authorizing those services with them during deliveries and the employee’s government-issued identification, and shall present that license and identification upon request to state and local law enforcement, employees of regulatory authorities, and other state and local agencies enforcing this chapter.
(c) A county shall have the authority to impose a tax, pursuant to Article 11 (commencing with Section 19348), on each delivery transaction completed by a licensee.
(d) During delivery, the licensee shall maintain a physical copy of the delivery request and shall make it available upon request of the licensing authority and law enforcement officers. The delivery request documentation shall comply with state and federal law regarding the protection of confidential medical information.
(e) The qualified patient or primary caregiver requesting the delivery shall maintain a copy of the delivery request and shall make it available, upon request, to the licensing authority and law enforcement officers.
(f) A local jurisdiction shall not prevent carriage of medical cannabis or medical cannabis products on public roads by a licensee acting in compliance with this chapter.

December 13, 2016; this document may not contain the most recent statute language
ARTICLE 10. LICENSED MANUFACTURERS AND LICENSED LABORATORIES (19341 – 19347.8)

19341. The State Department of Public Health shall promulgate regulations governing the licensing of manufacturers. The State Department of Public Health shall develop standards for the manufacturing and labeling of all manufactured medical cannabis products. Licenses to be issued are as follows:
(a) “Manufacturing level 1,” for manufacturing sites that produce medical cannabis products using nonvolatile solvents.
(b) “Manufacturing level 2,” for manufacturing sites that produce medical cannabis products using volatile solvents. The State Department of Public Health shall limit the number of licenses of this type.

19342. (a) For the purposes of testing medical cannabis or medical cannabis products, licensees shall use a testing laboratory that has adopted a standard operating procedure using methods consistent with general requirements established by the International Organization for Standardization, specifically ISO/IEC 17025, to test medical cannabis and medical cannabis products. The testing laboratory shall be accredited by a body that is a signatory to the International Laboratory Accreditation Cooperation Mutual Recognition Arrangement.
(b) An agent of a testing laboratory shall obtain samples according to a statistically valid sampling method for each lot.
(c) A testing laboratory shall analyze samples according to both of the following:
(1) In the final form that the medical cannabis or medical cannabis products will be consumed or used, including moisture content and other attributes.
(2) A scientifically valid methodology, as determined by the bureau.
(d) If a test result falls outside the specifications authorized by law or regulation, the testing laboratory shall follow a standard operating procedure to confirm or refute the original result.
(e) A testing laboratory shall destroy the remains of the sample of medical cannabis or medical cannabis product upon completion of the analysis.
(f) The State Department of Public Health and the Department of Pesticide Regulation shall provide assistance to the bureau in developing regulations, as requested by the bureau.

19343. A testing laboratory shall not be licensed by the bureau unless the laboratory meets all of the following:
(a) A testing laboratory shall not hold a license in another license category under this chapter and shall not own or have an ownership interest in any other entity or premises licensed under a different category pursuant to this chapter.
(b) Follows the methodologies, ranges, and parameters that are contained in the scope of the accreditation for testing medical cannabis or medical cannabis products. The testing laboratory shall also comply with any other requirements specified by the bureau.
(c) Notifies the bureau within one business day after the receipt of notice of any kind that its accreditation has been denied, suspended, or revoked.
(d) Has established standard operating procedures that provide for adequate chain of custody controls for samples transferred to the testing laboratory for testing.

19344. (a) A testing laboratory shall issue a certificate of analysis for each lot, with supporting data, to report both of the following:
(1) Whether the chemical profile of the lot conforms to the specifications of the lot for compounds, including, but not limited to, all of the following, unless limited through regulation by the bureau:
   (A) Tetrahydrocannabinol (THC).
   (B) Tetrahydrocannabinolic Acid (THCA).
   (C) Cannabidiol (CBD).
   (D) Cannabidiolic Acid (CBDA).
   (E) Terpenes required by the bureau in a regulation.
   (F) Cannabigerol (CBG).
   (G) Cannabinol (CBN).
   (H) Any other compounds or contaminants required by the bureau.
(2) That the presence of contaminants does not exceed the levels set by the bureau. In setting the levels, the bureau shall consider the American Herbal Pharmacopoeia monograph, guidelines set by the Department of Pesticide Regulation pursuant to subdivision (b) of Section 19332, and any other relevant sources.
   (A) Residual solvent or processing chemicals.
   (B) Foreign material, including, but not limited to, hair, insects, or similar or related adulterant.
   (C) Microbiological impurities as identified by the bureau in regulation.

December 13, 2016; this document may not contain the most recent statute language
(b) Residual levels of volatile organic compounds shall be below the lesser of either the specifications set by the United States Pharmacopeia (U.S.P. Chapter 467) or those set by the bureau.

19345.
(a) Except as provided in this chapter, a testing laboratory shall not acquire or receive medical cannabis or medical cannabis products except from a licensee in accordance with this chapter, and shall not distribute, sell, deliver, transfer, transport, or dispense medical cannabis or medical cannabis products, from the licensed premises the medical cannabis or medical cannabis products were acquired or received. All transfer or transportation shall be performed pursuant to a specified chain of custody protocol.

(b) A testing laboratory may receive and test samples of medical cannabis or medical cannabis products from a qualified patient or primary caregiver only if he or she presents his or her valid recommendation for cannabis for medical purposes from a physician. A testing laboratory shall not certify samples from a qualified patient or caregiver for resale or transfer to another party or licensee. All tests performed by a testing laboratory for a qualified patient or caregiver shall be recorded with the name of the qualified patient or caregiver and the amount of medical cannabis or medical cannabis product received.

(c) The bureau shall develop procedures related to all of the following:
(1) Ensuring that testing of medical cannabis and medical cannabis products occurs prior to delivery to dispensaries or any other business.
(2) Specifying how often licensees shall test medical cannabis and medical cannabis products.
(3) Requiring the destruction of harvested batches whose testing samples indicate noncompliance with health and safety standards required by state law, unless remedial measures can bring the medical cannabis or medical cannabis products into compliance with quality assurance standards as specified by state law.

(d) Cultivators and manufacturers shall pay all costs related to and associated with the testing of medical cannabis and medical cannabis products required by this chapter.

19347.
(a) Prior to delivery by or sale at a dispensary, medical cannabis and medical cannabis products shall be labeled and in tamper proof packaging and shall include a unique identifier, as prescribed by the Department of Food and Agriculture, for the purpose of identifying and tracking medical cannabis or medical cannabis products. Packages of medical cannabis and medical cannabis products shall meet the following requirements:
(1) Medical cannabis packages and labels shall not be made to be attractive to children.
(2) All medical cannabis and medical cannabis product labels shall include the following information, prominently displayed and in a clear and legible font:
   (A) Cultivation and manufacture date and source.
   (B) The statement "SCHEDULE I CONTROLLED SUBSTANCE."
   (C) The statement "KEEP OUT OF REACH OF CHILDREN AND ANIMALS" in bold print.
   (D) The statement "FOR MEDICAL USE ONLY."
   (E) The statement "THE INTOXICATING EFFECTS OF THIS PRODUCT MAY BE DELAYED BY UP TO TWO HOURS."
   (F) The statement "THIS PRODUCT MAY IMPAIR THE ABILITY TO DRIVE OR OPERATE MACHINERY. PLEASE USE EXTREME CAUTION."
   (G) For packages containing only dried flower, the net weight of medical cannabis in the package.
   (H) A warning if nuts or other known allergens are used in the manufacturing of the medical cannabis products.
   (I) List of ingredients and pharmacologically active ingredients, including, but not limited to, tetrahydrocannabinol (THC), cannabidiol (CBD), and other cannabinoid content, the THC, CBD, and other cannabinoid amount in milligrams per serving, servings per package, and the THC, CBD, and other cannabinoid amount in milligrams for the package total.
   (J) Clear indication, in bold type, that the product contains medical cannabis.
   (K) Any other requirement set by the bureau or the State Department of Public Health.
   (L) Information associated with the unique identifier issued by the Department of Food and Agriculture pursuant to Section 11362.777 of the Health and Safety Code.
   (M) All manufactured and edible medical cannabis products shall be sold only in special packaging constructed to be child-resistant unless otherwise exempted by regulation.

(b) Only generic food names may be used to describe edible medical cannabis products.
19347.1. 
(a) The State Department of Public Health may issue a citation, which may contain an order of abatement and an order to pay an administrative fine assessed by the department where the licensee is in violation of this chapter or any regulation adopted pursuant to it.
   (1) Citations shall be in writing and shall describe with particularity the nature of the violation, including specific reference to the provision of law determined to have been violated.
   (2) Whenever appropriate, the citation shall contain an order of abatement fixing a reasonable time for abatement of the violation.
   (3) In no event shall the administrative fine assessed by the State Department of Public Health exceed five thousand dollars ($5,000) for each violation, unless a different fine amount is expressly provided by this chapter. In assessing a fine, the licensing authority shall give due consideration to the appropriateness of the amount of the fine with respect to factors such as the gravity of the violation, the good faith of the licensee, and the history of previous violations.
   (4) A citation issued or a fine assessed pursuant to this section shall notify the licensee that if the licensee desires a hearing to contest the finding of a violation, that hearing shall be requested by written notice to the State Department of Public Health within 30 days of the date of issuance of the citation or fine. If a hearing is not requested pursuant to this section, payment of any fine shall not constitute an admission of the violation charged. Hearings shall be held pursuant to Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code.
   (5) Failure of a licensee to pay a fine within 30 days of the date of assessment of the fine, unless assessment of the fine or the citation is being appealed, may result in further legal action being taken by the State Department of Public Health. If a licensee does not contest a citation or pay the fine, the full amount of the fine shall be added to the fee for renewal of the license. A license shall not be renewed without payment of the renewal fee, including the amount of the fine.
   (6) A citation may be issued without the assessment of an administrative fine.
   (7) The State Department of Public Health may limit the assessment of administrative fines to only particular violations of the chapter and establish any other requirement for implementation of the citation system by regulation.
(b) Notwithstanding any other law, if a fine is paid to satisfy an assessment based on the finding of a violation, payment of the fine shall be represented as satisfactory resolution of the matter for purposes of public disclosure.

19347.2. 
The State Department of Public Health may, in addition to the administrative citation system authorized by Section 19347.1, also establish by regulation a similar system for the issuance of an administrative citation to an unlicensed person who is acting in the capacity of a licensee under the jurisdiction of the State Department of Public Health as pertains to this chapter. The administrative citation system authorized by this section shall meet the requirements of Section 19347.1 and shall not be applied to an unlicensed person who is otherwise exempt from the licensing provisions of this chapter. The establishment of an administrative citation system for unlicensed activity does not preclude the use of other enforcement statutes for unlicensed activities at the discretion of the State Department of Public Health.

19347.3. 
In determining whether to exercise its discretion when enforcing this chapter, the State Department of Public Health may consider whether the public interest will be adequately served in the circumstances by a suitable written notice or warning. The State Department of Public Health may also require licensees to provide it with a written plan of correction and correct a violation within a timeframe the State Department of Public Health deems necessary under the circumstances.

19347.4. 
The State Department of Public Health may notify the public regarding any medical cannabis product when the State Department of Public Health deems it necessary for the protection of the health and safety of the consumer or for his or her protection from fraud.

19347.5. 
(a) A medical cannabis product is misbranded if it is any of the following:
   (1) Manufactured, packed, or held in this state in a manufacturing site not duly licensed as provided in this chapter.
   (2) Its labeling is false or misleading in any particular.
   (3) Its labeling or packaging does not conform to the requirements of Section 19347 or any other labeling or packaging requirement established pursuant to this chapter.
(b) It is unlawful for any person to manufacture, sell, deliver, hold, or offer for sale a medical cannabis product that is misbranded.
(c) It is unlawful for any person to misbrand a medical cannabis product.
Comprehensive
Medical Cannabis Regulation and Safety Act- 2016

Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

(d) It is unlawful for any person to receive in commerce a medical cannabis product that is misbranded or to deliver or offer for delivery any such medical cannabis product.

19347.6.
(a) A medical cannabis product is adulterated if it is any of the following:
   (1) It has been produced, prepared, packed, or held under insanitary conditions in which it may have become contaminated with filth or in which it may have been rendered injurious.
   (2) It consists in whole or in part of any filthy, putrid, or decomposed substance.
   (3) It bears or contains any poisonous or deleterious substance that may render it injurious to users under the conditions of use suggested in the labeling or under conditions as are customary or usual.
   (4) It bears or contains a substance that is restricted or limited under this chapter or regulations promulgated pursuant to this chapter and the level of substance in the product exceeds the limits specified pursuant to this chapter or in regulation.
   (5) Its concentrations differ from, or its purity or quality is below, that which it is represented to possess.
   (6) The methods, facilities, or controls used for its manufacture, packing, or holding do not conform to or are not operated or administered in conformity with practices established by regulations adopted under this chapter to ensure that the medical cannabis product meets the requirements of this chapter as to safety and has the concentrations it purports to have and meets the quality and purity characteristics that it purports or is represented to possess.
   (7) Its container is composed, in whole or in part, of any poisonous or deleterious substance that may render the contents injurious to health.
   (8) It is an edible cannabis product and any substance has been mixed or packed with it after testing by a testing laboratory so as to reduce its quality or concentration or if any substance has been substituted, wholly or in part, for the edible cannabis product.

(b) It is unlawful for a person to manufacture, sell, deliver, hold, or offer for sale a medical cannabis product that is adulterated.

(c) It is unlawful for any person to adulterate a medical cannabis product.

(d) It is unlawful for any person to receive in commerce a medical cannabis product that is adulterated or to deliver or proffer for delivery any such medical cannabis product.

19347.7.
(a) Whenever the State Department of Public Health finds or has probable cause to believe that any medical cannabis product is adulterated or misbranded within the meaning of this chapter or the sale of the medical cannabis product would be in violation of this chapter, the department shall affix to the medical cannabis product, or component thereof, a tag or other

December 13, 2016; this document may not contain the most recent statute language

Page 24

Appendix B-24
This statute has been replaced with the Medicinal and Adult-Use Regulation and Safety Act (included in this PEIR as Appendix H), but is presented here for informational purposes.

Comprehensive
Medical Cannabis Regulation and Safety Act- 2016

Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

appropriate marking. The State Department of Public Health shall give notice that the medical cannabis product is, or is suspected of being, adulterated or misbranded, or the sale of which would be in violation of this chapter and has been embargoed and that no person shall remove or dispose of the medical cannabis product by sale or otherwise until permission for removal or disposal is given by the State Department of Public Health or a court.

(b) It is unlawful for any person to remove, sell, or dispose of a detained or embargoed medical cannabis product without written permission of the State Department of Public Health or a court. A violation of this subdivision is subject to a fine of not more than ten thousand dollars ($10,000).

(c) If the adulteration or misbranding can be corrected by proper labeling or additional processing of the medical cannabis product and all of the provisions of this chapter can be complied with, the claimant or owner may request the State Department of Public Health to remove the tag or other marking. If, under the supervision of the State Department of Public Health, the adulteration or misbranding has been corrected, the department may remove the tag or other marking.

(d) When the State Department of Public Health finds that a medical cannabis product that is embargoed is not adulterated, misbranded, or whose sale is not otherwise in violation of this chapter, the State Department of Public Health may remove the tag or other marking.

(e) The medical cannabis product may be destroyed by the owner pursuant to a corrective action plan approved by the State Department of Public Health and under the supervision of the department. The medical cannabis product shall be destroyed at the expense of the claimant or owner.

(f) A proceeding for condemnation of any medical cannabis product under this section shall be subject to appropriate notice to, and the opportunity for a hearing with regard to, the person affected in accordance with Section 19308.

(g) A finding by the administrative law judge that the medical cannabis product is adulterated, misbranded, or whose sale is otherwise in violation of this chapter, the administrative law judge may direct the medical cannabis product to be destroyed at the expense of the claimant or owner. The administrative law judge may also direct a claimant or owner of the affected medical cannabis product to pay fees and reasonable costs, including the costs of storage and testing, incurred by the bureau or the Department of Public Health in investigating and prosecuting the action taken pursuant to this section.

(h) When, under the supervision of the State Department of Public Health, the adulteration or misbranding has been corrected by proper labeling or additional processing of the medical cannabis and medical cannabis product and when all provisions of this chapter have been complied with, and after costs, fees, and expenses have been paid, the State Department of Public Health may release the embargo and remove the tag or other marking and the medical cannabis shall no longer be held for sale in violation of this chapter.

(i) The State Department of Public Health may condemn any medical cannabis product under provisions of this chapter. The medical cannabis product shall be destroyed at the expense of the claimant or owner.

ARTICLE 11. TAXATION (19348 – 19348)

19348.

(a) A county may impose a tax on the privilege of cultivating, dispensing, producing, processing, preparing, storing, providing, donating, selling, or distributing medical cannabis or medical cannabis products by a licensee operating pursuant to this chapter.

(b) The board of supervisors shall specify in the ordinance proposing the tax the activities subject to the tax, the applicable rate or rates, the method of apportionment, if necessary, and the manner of collection of the tax. The tax may be imposed for general governmental purposes or for purposes specified in the ordinance by the board of supervisors.

(c) In addition to any other method of collection authorized by law, the board of supervisors may provide for the collection of the tax imposed pursuant to this section in the same manner, and subject to the same penalties and priority of lien, as other charges and taxes fixed and collected by the county. A tax imposed pursuant to this section is a tax and not a fee or special assessment. The board of supervisors shall specify whether the tax applies throughout the entire county or within the unincorporated area of the county.

(d) The tax authorized by this section may be imposed upon any or all of the activities set forth in paragraph (1), as specified in the ordinance, regardless of whether the activity is undertaken individually, collectively, or cooperatively, and regardless of whether the activity is for compensation or gratuitous, as determined by the board of supervisors.

(b) A tax imposed pursuant to this section shall be subject to applicable voter approval requirements imposed by law.

(c) This section is declaratory of existing law and does not limit or prohibit the levy or collection of any other fee, charge, or tax, or a license or service fee or charge upon, or related to, the activities set forth in subdivision (a) as otherwise provided by law. This section shall not be construed as a limitation upon the taxing authority of a county as provided by law.

(d) This section shall not be construed to authorize a county to impose a sales or use tax in addition to the sales and use tax imposed under an ordinance conforming to the provisions of Sections 7202 and 7203 of the Revenue and Taxation Code.

December 13, 2016; this document may not contain the most recent statute language.

Page 25
ARTICLE 13. FUNDING (19350 – 19352)

19350. Each licensing authority shall establish a scale of application, licensing, and renewal fees, based upon the cost of enforcing this chapter, as follows:

(a) Each licensing authority shall charge each licensee a licensure and renewal fee, as applicable. The licensure and renewal fee shall be calculated to cover the costs of administering this chapter. The licensure fee may vary depending upon the varying costs associated with administering the various regulatory requirements of this chapter as they relate to the nature and scope of the different licensure activities, including, but not limited to, the track and trace program required pursuant to Section 19335, but shall not exceed the reasonable regulatory costs to the licensing authority.

(b) The total fees assessed pursuant to this chapter shall be set at an amount that will fairly and proportionately generate sufficient total revenue to fully cover the total costs of administering this chapter.

(c) All license fees shall be set on a scaled basis by the licensing authority, dependent on the size of the business. License fees shall cover the costs of administering the track and trace program managed by the Department of Food and Agriculture, as identified in Article 7.5 (commencing with Section 19335).

(d) The licensing authority shall deposit all fees collected in a fee account specific to that licensing authority, to be established in the Medical Cannabis Regulation and Safety Act Fund. Moneys in the licensing authority fee accounts shall be used, upon appropriation of the Legislature, by the designated licensing authority for the administration of this chapter.

19351. (a) The Medical Cannabis Regulation and Safety Act Fund is hereby established within the State Treasury. Moneys in the fund shall be available upon appropriation by the Legislature. Notwithstanding Section 16305.7 of the Government Code, the fund shall include any interest and dividends earned on the moneys in the fund.

(b) (1) Funds for the establishment and support of the regulatory activities pursuant to this chapter shall be advanced as a General Fund or special fund loan, and shall be repaid by the initial proceeds from fees collected pursuant to this chapter or any rule or regulation adopted pursuant to this chapter, by January 1, 2022. Should the initial proceeds from fees not be sufficient to repay the loan, moneys from the Medical Cannabis Fines and Penalties Account shall be made available to the bureau, by appropriation of the Legislature, to repay the loan.

(2) Funds advanced pursuant to this subdivision shall be appropriated to the bureau, which shall distribute the moneys to the appropriate licensing authorities, as necessary to implement the provisions of this chapter.

(3) The Director of Finance may provide an initial operating loan from the General Fund to the Medical Cannabis Regulation and Safety Act Fund that does not exceed ten million dollars ($10,000,000).

(c) Except as otherwise provided, all moneys collected pursuant to this chapter as a result of fines or penalties imposed under this chapter shall be deposited directly into the Medical Cannabis Fines and Penalties Account, which is hereby established within the fund, and shall be available, upon appropriation by the Legislature to the bureau, for the purposes of funding the enforcement grant program pursuant to subdivision (d).

(d) (1) The bureau shall establish a grant program to allocate moneys from the Medical Cannabis Fines and Penalties Account to state and local entities for the following purposes:

(A) To assist with medical cannabis regulation and the enforcement of this chapter and other state and local laws applicable to cannabis activities.

(B) For allocation to state and local agencies and law enforcement to remedy the environmental impacts of cannabis cultivation.

(2) The costs of the grant program under this subdivision shall, upon appropriation by the Legislature, be paid for with moneys in the Medical Cannabis Fines and Penalties Account.

(3) The grant program established by this subdivision shall only be implemented after the loan specified in this section is repaid.

19352. The sum of ten million dollars ($10,000,000) is hereby appropriated from the Medical Marijuana Regulation and Safety Act Fund to the Department of Consumer Affairs to begin the activities of the Bureau of Medical Marijuana Regulation. Funds appropriated pursuant to this section shall not include moneys received from fines or penalties.

December 13, 2016; this document may not contain the most recent statute language

Page 26
**Comprehensive Medical Cannabis Regulation and Safety Act - 2016**

Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

### ARTICLE 14. REPORTING (19353 – 19354)

**19353.**
Beginning on March 1, 2023, and on or before March 1 of each following year, each licensing authority shall prepare and submit to the Legislature an annual report on the authority’s activities and post the report on the authority’s Internet Web site. The report shall include, but be not limited to, the following information for the previous fiscal year:

- **(a)** The amount of funds allocated and spent by the licensing authority for medical cannabis licensing, enforcement, and administration.
- **(b)** The number of state licenses issued, renewed, denied, suspended, and revoked, by state license category.
- **(c)** The average time for processing state license applications, by state license category.
- **(d)** The number of appeals from the denial of state licenses or other disciplinary actions taken by the licensing authorities and by local law enforcement agencies in conjunction with the licensing authorities or the bureau.
- **(e)** The number of complaints submitted by citizens or representatives of cities or counties regarding licensees, provided as both a comprehensive statewide number and by geographical region.
- **(f)** The number and type of enforcement activities conducted by the licensing authorities and by local law enforcement agencies in conjunction with the licensing authorities or the bureau.
- **(g)** The number, type, and amount of penalties, fines, and other disciplinary actions taken by the licensing authorities.

**19354.**
The bureau shall contract with the California Marijuana Research Program, known as the Center for Medicinal Cannabis Research, authorized pursuant to Section 11362.9 of the Health and Safety Code, to develop a study that identifies the impact that cannabis has on motor skills.

### ARTICLE 15. PRIVACY (19355 – 19355)

**19355.**
(a) Information identifying the names of patients, their medical conditions, or the names of their primary caregivers received and contained in records kept by the office or licensing authorities for the purposes of administering this chapter are confidential and shall not be disclosed pursuant to the California Public Records Act (Chapter 3.5 (commencing with Section 6250) of Division 7 of Title 1 of the Government Code), except as necessary for authorized employees of the State of California or any city, county, or city and county to perform official duties pursuant to this chapter, or a local ordinance.

(b) Information identifying the names of patients, their medical conditions, or the names of their primary caregivers received and contained in records kept by the bureau for the purposes of administering this chapter shall be maintained in accordance with Chapter 1 (commencing with Section 123100) of Part 1 of Division 106 of the Health and Safety Code, Part 2.6 (commencing with Section 56) of Division 1 of the Civil Code, and other state and federal laws relating to confidential patient information.

(c) Nothing in this section precludes the following:

1. Employees of the bureau or any licensing authorities notifying state or local agencies about information submitted to the agency that the employee suspects is falsified or fraudulent.
2. Notifications from the bureau or any licensing authorities to state or local agencies about apparent violations of this chapter or applicable local ordinance.
3. Verification of requests by state or local agencies to confirm licenses and certificates issued by the regulatory authorities or other state agency.
4. Provision of information requested pursuant to a court order or subpoena issued by a court or an administrative agency or local governing body authorized by law to issue subpoenas.

(d) Information shall not be disclosed by any state or local agency beyond what is necessary to achieve the goals of a specific investigation, notification, or the parameters of a specific court order or subpoena.

### ARTICLE 17. PENALTIES AND VIOLATIONS (19360 – 19360)

**19360.**
(a) A person engaging in commercial cannabis activity without a license and associated unique identifiers required by this chapter shall be subject to civil penalties of up to twice the amount of the license fee for each violation, and the department, state or local authority, or court may order the destruction of medical cannabis associated with that violation. A violator shall be responsible for the cost of the destruction of medical cannabis associated with his or her violation, in addition to any amount covered by a bond required as a condition of licensure. Each day of operation shall constitute a separate violation of this section. All civil penalties imposed and collected pursuant to this section by a licensing authority shall be deposited into the Medical Cannabis Fines and Penalties Account established pursuant to Section 19351.

December 13, 2016; this document may not contain the most recent statute language

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*Appendix B-27*
(b) If an action for civil penalties is brought against a licensee pursuant to this chapter by the Attorney General on behalf of the people, the penalty collected shall be deposited into the Medical Cannabis Fines and Penalties Account. If the action is brought by a district attorney or county counsel, the penalty collected shall be paid to the treasurer of the county in which the judgment was entered. If the action is brought by a city attorney or city prosecutor, the penalty collected shall be paid to the treasurer of the city or city and county in which the judgment was entered. If the action is brought by a city attorney and is adjudicated in a superior court located in the unincorporated area or another city in the same county, the penalty shall be paid one-half to the treasurer of the city in which the complaining attorney has jurisdiction and one-half to the treasurer of the county in which the judgment is entered.

(c) Notwithstanding subdivision (a), criminal penalties shall continue to apply to an unlicensed person or entity engaging in cannabis activity in violation of this chapter, including, but not limited to, those individuals covered under Section 11362.7 of the Health and Safety Code.

**Labor Code**

**CHAPTER 6. OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD (140 – 147.5)**

147.5.

(a) By January 1, 2017, the Division of Occupational Safety and Health shall convene an advisory committee to evaluate whether there is a need to develop industry-specific regulations related to the activities of facilities issued a license pursuant to Chapter 3.5 (commencing with Section 19300) of Division 8 of the Business and Professions Code.

(b) By July 1, 2017, the advisory committee shall present to the board its findings and recommendations for consideration by the board. By July 1, 2017, the board shall render a decision regarding the adoption of industry-specific regulations pursuant to this section.

**Government Code**

**ARTICLE 7.5 SUNSET REVIEW (9147.7)**

9147.7.

(a) For the purpose of this section, “eligible agency” means any agency, authority, board, bureau, commission, conservancy, council, department, division, or office of state government, however denominated, excluding an agency that is constitutionally created or an agency related to postsecondary education, for which a date for repeal has been established by statute on or after January 1, 2011.

(b) The Joint Sunset Review Committee is hereby created to identify and eliminate waste, duplication, and inefficiency in government agencies. The purpose of the committee is to conduct a comprehensive analysis over 15 years, and on a periodic basis thereafter, of every eligible agency to determine if the agency is still necessary and cost effective.

(c) Each eligible agency scheduled for repeal shall submit to the committee, on or before December 1 prior to the year it is set to be repealed, a complete agency report covering the entire period since last reviewed, including, but not limited to, the following:

1. The purpose and necessity of the agency.
2. A description of the agency budget, priorities, and job descriptions of employees of the agency.
3. Any programs and projects under the direction of the agency.
4. Measures of the success or failures of the agency and justifications for the metrics used to evaluate successes and failures.
5. Any recommendations of the agency for changes or reorganization in order to better fulfill its purpose.

(d) The committee shall take public testimony and evaluate the eligible agency prior to the date the agency is scheduled to be repealed. An eligible agency shall be eliminated unless the Legislature enacts a law to extend, consolidate, or reorganize the eligible agency. No eligible agency shall be extended in perpetuity unless specifically exempted from the provisions of this section. The committee may recommend that the Legislature extend the statutory sunset date for no more than one year to allow the committee more time to evaluate the eligible agency.

(e) The committee shall be comprised of 10 members of the Legislature. The Senate Committee on Rules shall appoint five members of the Senate to the committee, not more than three of whom shall be members of the same political party. The Speaker of the Assembly shall appoint five members of the Assembly to the committee, not more than three of whom shall be members of the same political party. Members shall be appointed within 15 days after the commencement of the regular session. Each member of the committee who is appointed by the Senate Committee on Rules or the Speaker of the
Comprehensive
Medical Cannabis Regulation and Safety Act - 2016

Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

Assembly shall serve during that committee member’s term of office or until that committee member no longer is a Member of the Senate or the Assembly, whichever is applicable. A vacancy on the committee shall be filled in the same manner as the original appointment. Three Assembly Members and three Senators who are members of the committee shall constitute a quorum for the conduct of committee business. Members of the committee shall receive no compensation for their work with the committee.

(f) The committee shall meet not later than 30 days after the first day of the regular session to choose a chairperson and to establish the schedule for eligible agency review provided for in the statutes governing the eligible agencies. The chairperson of the committee shall alternate every two years between a Member of the Senate and a Member of the Assembly, and the vice chairperson of the committee shall be a member of the opposite house as the chairperson.

(g) This section shall not be construed to change the existing jurisdiction of the budget or policy committees of the Legislature.

(h) This section shall not apply to the Bureau of Medical Marijuana Regulation.

FIS

H AND GAME CODE

DIVISION 2. DEPARTMENT OF FISH AND WILDLIFE

CHAPTER 6. FISH AND WILDLIFE PROTECTION AND CONSERVATION

1602.

(a) An entity may not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake, unless all of the following occur:

(1) The department receives written notification regarding the activity in the manner prescribed by the department. The notification shall include, but is not limited to, all of the following:

(A) A detailed description of the project's location and a map.
(B) The name, if any, of the river, stream, or lake affected.
(C) A detailed project description, including, but not limited to, construction plans and drawings, if applicable.
(D) A copy of any document prepared pursuant to Division 13 (commencing with Section 21000) of the Public Resources Code.
(E) A copy of any other applicable local, state, or federal permit or agreement already issued.
(F) Any other information required by the department.

(2) The department determines the notification is complete in accordance with Chapter 4.5 (commencing with Section 65920) of Division 1 of Title 7 of the Government Code, irrespective of whether the activity constitutes a development project for the purposes of that chapter.

(3) The entity pays the applicable fees, pursuant to Section 1609.

(4) One of the following occurs:

(A) The department informs the entity, in writing, that the activity will not substantially adversely affect an existing fish or wildlife resource, and that the entity may commence the activity without an agreement, if the entity conducts the activity as described in the notification, including any measures in the notification that are intended to protect fish and wildlife resources.

(ii) Each region of the department shall log the notifications of activities where no agreement is required. The log shall list the date the notification was received by the department, a brief description of the proposed activity, and the location of the activity. Each item shall remain on the log for one year. Upon written request by any person, a regional office shall send the log to that person monthly for one year. A request made pursuant to this clause may be renewed annually.

(B) The department determines that the activity may substantially adversely affect an existing fish or wildlife resource and issues a final agreement to the entity that includes reasonable measures necessary to protect the resource, and the entity conducts the activity in accordance with the agreement.

(C) A panel of arbitrators issues a final agreement to the entity in accordance with subdivision (b) of Section 1603, and the entity conducts the activity in accordance with the agreement.

(D) The department does not issue a draft agreement to the entity within 60 days from the date notification is complete, and the entity conducts the activity as described in the notification, including any measures in the notification that are intended to protect fish and wildlife resources.

This statute has been replaced with the Medicinal and Adult-Use Regulation and Safety Act (included in this PEIR as Appendix H), but is presented here for informational purposes.

Appendix B-29
Comprehensive Medical Cannabis Regulation and Safety Act- 2016

Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

(b)
(1) If an activity involves the routine maintenance and operation of water supply, drainage, flood control, or waste treatment and disposal facilities, notice to and agreement with the department shall not be required after the initial notification and agreement, unless the department determines either of the following:
   (A) The work described in the agreement has substantially changed.
   (B) Conditions affecting fish and wildlife resources have substantially changed, and those resources are adversely affected by the activity conducted under the agreement.

(2) This subdivision applies only if notice to, and agreement with, the department was attained prior to January 1, 1977, and the department has been provided a copy of the agreement or other proof of the existence of the agreement that satisfies the department, if requested.

c)
(1) Notwithstanding subdivision (a), an entity shall not be required to obtain an agreement with the department pursuant to this chapter for activities authorized by a license or renewed license for cannabis cultivation issued by the Department of Food and Agriculture for the term of the license or renewed license if all of the following occur:
   (A) The entity submits all of the following to the department:
      (i) The written notification described in paragraph (1) of subdivision (a).
      (ii) A copy of the license or renewed license for cannabis cultivation issued by the Department of Food and Agriculture that includes the requirements specified in subdivisions (d), (e), and (f) of Section 19332.2 of the Business and Professions Code.
      (iii) The fee specified in paragraph (3) of subdivision (a).
   (B) The department determines in its sole discretion that compliance with the requirements specified in subdivisions (d), (e), and (f) of Section 19332.2 of the Business and Professions Code that are included in the license will adequately protect existing fish and wildlife resources that may be substantially adversely affected by the cultivation without the need for additional measures that the department would include in a draft streambed alteration agreement in accordance with Section 1603.
   (C) The department notifies the entity in writing that the exemption applies to the cultivation authorized by the license or renewed license.

(2) The department shall notify the entity in writing whether the exemption in paragraph (1) applies to the cultivation authorized by the license or renewed license within 60 days from the date that the notification is complete and the fee has been paid.

(3) If an entity receives an exemption pursuant to this subdivision and fails to comply with any of the requirements described in subdivision (d), (e), or (f) of Section 19332.2 of the Business and Professions Code that are included in the license, the failure shall constitute a violation under this section, and the department shall notify the Department of Food and Agriculture of any enforcement action taken.

d) It is unlawful for any person to violate this chapter.

1617.
(a) The department may adopt regulations establishing the requirements and procedure for the issuance of a general agreement in a geographic area for a category or categories of activities related to cannabis cultivation.

(b) A general agreement adopted by the department subsequent to adoption of regulations under this section shall be in lieu of an individual agreement described in subparagraph (B) of paragraph (4) of subdivision (a) of Section 1602.

(c) Subparagraph (D) of paragraph (4) of subdivision (a) of Section 1602 and all other time periods to process agreements specified in this chapter do not apply to the issuance of a general agreement adopted by the department pursuant to this section.

(d) The department general agreement issued by the department pursuant to this section is a final agreement and is not subject to Section 1603 or 1604.

(e) The department shall charge a fee for a general agreement adopted by the department under this section in accordance with Section 1609.

(f) Regulations adopted pursuant to this section, and any amendment thereto, shall not be subject to Division 13 (commencing with Section 21000) of the Public Resources Code.

DIVISION 9. FINES AND PENALTIES

CHAPTER 1. GENERAL PROVISIONS (12000 -12029)

12025.2. The director or his or her designee may issue a complaint to any person or entity in accordance with Section 1055 of the Water Code alleging a violation for which liability may be imposed under Section 1052 or 1847 of the Water Code that harms fish and wildlife.
12029. The Legislature finds and declares all of the following:
(a) The environmental impacts associated with cannabis cultivation have increased, and unlawful water diversions for cannabis irrigation have a detrimental effect on fish and wildlife and their habitat, which are held in trust by the state for the benefit of the people of the state.
(b) The remediation of existing cannabis cultivation sites is often complex and the permitting of these sites requires greater department staff time and personnel expenditures. The potential for cannabis cultivation sites to significantly impact the state’s fish and wildlife resources requires immediate action on the part of the department’s lake and streambed alteration permitting staff.
(c) In order to address unlawful water diversions and other violations of the Fish and Game Code associated with cannabis cultivation, the department shall establish the watershed enforcement program to facilitate the investigation, enforcement, and prosecution of these offenses.
(d) The department, in coordination with the State Water Resources Control Board and the Department of Food and Agriculture, shall establish a permanent multiagency task force to address the environmental impacts of cannabis cultivation. The multiagency task force, to the extent feasible and subject to available resources, shall expand its enforcement efforts on a statewide level to ensure the reduction of adverse impacts of cannabis cultivation on fish and wildlife and their habitats throughout the state.
(e) In order to facilitate the remediation and permitting of cannabis cultivation sites, the department may adopt regulations to enhance the fees on any entity subject to Section 1602 for cannabis cultivation sites that require remediation. The fee schedule established pursuant to this subdivision shall not exceed the fee limits in Section 1609.

FOOD AND AGRICULTURAL CODE

DIVISION 15. MILK AND MILK PRODUCTS ACT OF 1947
PART 3. MANUFACTURED PRODUCTS
CHAPTER 3. BUTTER
ARTICLE 1. GENERAL PROVISIONS

37104. Notwithstanding Section 19300.5 of the Business and Professions Code, butter purchased from a licensed milk products plant or retail location that is subsequently infused or mixed with medical cannabis at the premises or location that is not subject to licensing as a milk product plant is exempt from the provisions of this division.

DIVISION 18. FIELD CROPS, SEEDS, SEED POTATOES, ONE-VARIETY COTTON DISTRICTS, AND NURSERY STOCK GRADES AND STANDARDS
CHAPTER 2. CALIFORNIA SEED LAW
ARTICLE 8. LABELING OF SEEDS (52451 – 52456)

52452. (a) Except as otherwise provided in Section 52454, each container of agricultural seed that is for sale or sold within this state for sowing, purposes shall bear upon it or have attached to it in a conspicuous place a plainly written or printed label or tag in the English language that includes all of the following information:
(1) The commonly accepted name of the kind, kind and variety, or kind and type of each agricultural seed component in excess of 5 percent of the whole, and the percentage by weight of each. If the aggregate of agricultural seed components, each present in an amount not exceeding 5 percent of the whole, exceeds 10 percent of the whole, each component in excess of 1 percent of the whole shall be named together with the percentage by weight of each. If more than one component is required to be named, the names of all components shall be shown in letters of the same type and size.
(2) The lot number or other lot identification.
(3) The percentage by weight of all weed seeds.
(4) The name and approximate number of each kind of restricted noxious weed seed per pound.
(5) The percentage by weight of any agricultural seed except that which is required to be named on the label.

December 13, 2016; this document may not contain the most recent statute language
(6) The percentage by weight of inert matter. If a percentage by weight is required to be shown by any provision of this section, that percentage shall be exclusive of any substance that is added to the seed as a coating and shown on the label as such.

(7) For each agricultural seed in excess of 5 percent of the whole, stated in accordance with paragraph (1), the percentage of germination exclusive of hard seed, the percentage of hard seed, if present, and the calendar month and year the test was completed to determine the percentages. Following the statement of those percentages, the additional statement “total germination and hard seed” may be stated.

(8) The name and address of the person who labeled the seed or of the person who sells the seed within this state.

(b) Subdivision (a) does not apply in the following instances:

(1) The sale is an occasional sale of seed grain by the producer of the seed grain to his or her neighbor for use by the purchaser within the county of production.

(2) Any cannabis seed, as defined in subdivision (f) of Section 19300.5 of the Business and Professions Code, sold or offered for sale in the state.

(c) All determinations of noxious weed seeds are subject to tolerances and methods of determination prescribed in the regulations that are adopted pursuant to this chapter.

(d) For purposes of this section, “neighbor” means a person who lives in close proximity, not to exceed three miles, to another.

HEALTH AND SAFETY CODE

DIVISION 10.
CHAPTER 6. OFFENSES AND PENALTI ES
ARTICLE 2. MARIJUANA (11357 – 11362.9)

11362.775.
(a) Subject to subdivision (b), qualified patients, persons with valid identification cards, and the designated primary caregivers of qualified patients and persons with identification cards, who associate within the State of California in order collectively or cooperatively to cultivate cannabis for medical purposes, shall not solely on the basis of that fact be subject to state criminal sanctions under Section 11357, 11358, 11359, 11360, 11366, 11366.5, or 11570.

(b) A collective or cooperative that operates pursuant to this section and manufactures medical cannabis products shall not, solely on the basis of that fact, be subject to state criminal sanctions under Section 11379.6 if the collective or cooperative abides by all of the following requirements:

(1) The collective or cooperative does either or both of the following:

(A) Utilizes only manufacturing processes that are either solventless or that employ only nonflammable, nontoxic solvents that are generally recognized as safe pursuant to the federal Food, Drug, and Cosmetic Act (21 U.S.C. Sec. 301 et seq.).

(B) Utilizes only manufacturing processes that use solvents exclusively within a closed-loop system that meets all of the following requirements:

(i) The system uses only solvents that are generally recognized as safe pursuant to the federal Food, Drug, and Cosmetic Act (21 U.S.C. Sec. 301 et seq.).

(ii) The system is designed to recapture and contain solvents during the manufacturing process, and otherwise prevent the off-gassing of solvents into the ambient atmosphere to mitigate the risks of ignition and explosion during the manufacturing process.

(iii) A licensed engineer certifies that the system was commercially manufactured, safe for its intended use, and built to codes of recognized and generally accepted good engineering practices, including, but not limited to, the American Society of Mechanical Engineers (ASME), the American National Standards Institute (ANSI), Underwriters Laboratories (UL), the American Society for Testing and Materials (ASTM), or OSHA Nationally Recognized Testing Laboratories (NRTLs).

(iv) The system has a certification document that contains the signature and stamp of a professional engineer and the serial number of the extraction unit being certified.

(2) The collective or cooperative receives and maintains approval from the local fire official for the closed-loop system, other equipment, the extraction operation, and the facility.

(3) The collective or cooperative meets required fire, safety, and building code requirements in one or more of the following:

(A) The California Fire Code.

(B) The National Fire Protection Association (NFPA) standards.

(C) International Building Code (IBC).
Comprehensive
Medical Cannabis Regulation and Safety Act- 2016

Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

(D) The International Fire Code (IFC).
(E) Other applicable standards, including complying with all applicable fire, safety, and building codes in processing, handling, and storage of solvents or gases.

(4) The collective or cooperative is in possession of a valid seller’s permit issued by the State Board of Equalization.
(5) The collective or cooperative is in possession of a valid local license, permit, or other authorization specific to the manufacture of medical cannabis products, and in compliance with any additional conditions imposed by the city or county issuing the local license, permit, or other authorization.

(c) For purposes of this section, “manufacturing” means compounding, converting, producing, deriving, processing, or preparing, either directly or indirectly by chemical extraction or independently by means of chemical synthesis, medical cannabis products.

(d) This section shall remain in effect only until one year after the Bureau of Medical Cannabis Regulation posts a notice on its Internet Web site that the licensing authorities have commenced issuing licenses pursuant to the Medical Cannabis Regulation and Safety Act (Chapter 3.5 (commencing with Section 19300) of Division 8 of the Business and Professions Code).

(e) This section is repealed one year after the date upon which the notice is posted pursuant to subdivision (d).

11362.777.
(a) The Department of Food and Agriculture shall establish a Medical Cannabis Cultivation Program to be administered by the secretary and, except as specified in subdivision (c), shall administer this section as it pertains to the commercial cultivation of medical cannabis. For purposes of this section and Chapter 3.5 (commencing with Section 19300) of Division 8 of the Business and Professions Code, medical cannabis is an agricultural product.

(b)
(1) A person or entity shall not cultivate medical cannabis without first obtaining both of the following:
   (A) A license, permit, or other entitlement, specifically permitting cultivation pursuant to these provisions, from the city, county, or city and county in which the cultivation will occur.
   (B) A state license issued by the department pursuant to this section.

(2) A person or entity shall not submit an application for a state license pursuant to this section unless that person or entity has received a license, permit, or other entitlement, specifically permitting cultivation pursuant to these provisions, from the city, county, or city and county in which the cultivation will occur.

(3) A person or entity shall not submit an application for a state license pursuant to this section if the proposed cultivation of cannabis will violate the provisions of any local ordinance or regulation, or if medical cannabis is prohibited by the city, county, or city and county in which the cultivation is proposed to occur, either expressly or otherwise under principles of permissible zoning.

(c)
(1) Except as otherwise specified in this subdivision, and without limiting any other local regulation, a city, county, or city and county, through its current or future land use regulations or ordinance, may issue or deny a permit to cultivate medical cannabis pursuant to this section. A city, county, or city and county may inspect the intended cultivation site for suitability before issuing a permit. After the city, county, or city and county has approved a permit, the applicant shall apply for a state medical cannabis cultivation license from the department. A locally issued cultivation permit shall only become active upon licensing by the department and receiving final local approval. A person shall not cultivate medical cannabis before obtaining both a permit from the city, county, or city and county and a state medical cannabis cultivation license from the department.

(2) A city, county, or city and county that issues or denies conditional licenses to cultivate medical cannabis pursuant to this section shall notify the department in a manner prescribed by the secretary.

(3) A city, county, or city and county’s locally issued conditional permit requirements must be at least as stringent as the department’s state licensing requirements.

(d)
(1) The secretary may prescribe, adopt, and enforce regulations relating to the implementation, administration, and enforcement of this part, including, but not limited to, applicant requirements, collections, reporting, refunds, and appeals.

(2) The secretary may prescribe, adopt, and enforce any emergency regulations as necessary to implement this part. Any emergency regulation prescribed, adopted, or enforced pursuant to this section shall be adopted in accordance with Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code, and, for purposes of that chapter, including Section 11349.6 of the Government Code, the adoption of the regulation is an emergency and shall be considered by the Office of Administrative Law as necessary for the immediate preservation of the public peace, health and safety, and general welfare.
Comprehensive
Medical Cannabis Regulation and Safety Act- 2016

Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

(3) The secretary may enter into a cooperative agreement with a county agricultural commissioner to carry out the provisions of this chapter, including, but not limited to, administration, investigations, inspections, licensing and assistance pertaining to the cultivation of medical cannabis. Compensation under the cooperative agreement shall be paid from assessments and fees collected and deposited pursuant to this chapter and shall provide reimbursement to the county agricultural commissioner for associated costs.

(e) (1) The department, in consultation with, but not limited to, the Bureau of Medical Marijuana Regulation, the State Water Resources Control Board, and the Department of Fish and Wildlife, shall implement a unique identification program for medical marijuana. In implementing the program, the department shall consider issues, including, but not limited to, water use and environmental impacts. In implementing the program, the department shall ensure that:

(A) Individual and cumulative effects of water diversion and discharge associated with cultivation do not affect the instream flows needed for fish spawning, migration, and rearing, and the flows needed to maintain natural flow variability.

(B) Cultivation will not negatively impact springs, riparian wetlands, and aquatic habitats.

(2) The department shall establish a program for the identification of permitted medical cannabis plants at a cultivation site during the cultivation period. The unique identifier shall be attached at the base of each plant. A unique identifier, such as, but not limited to, a zip tie, shall be issued for each medical cannabis plant.

(A) Unique identifiers will only be issued to those persons appropriately licensed by this section.

(B) Information associated with the assigned unique identifier and licensee shall be included in the trace and track program specified in section 19335 of the Business and Professions Code.

(C) The department may charge a fee to cover the reasonable costs of issuing the unique identifier and monitoring, tracking, and inspecting each medical cannabis plant.

(D) The department may promulgate regulations to implement this section.

(f) (1) A city, county, or city and county that issues or denies licenses, permits, or other entitlements to cultivate medical cannabis pursuant to this section shall notify the department in a manner prescribed by the secretary.

(2) Unique identifiers and associated identifying information administered by a city, county, or city and county shall adhere to the requirements set by the department and be the equivalent to those administered by the department.

(g) This section does not apply to a qualified patient cultivating cannabis pursuant to Section 11362.5 if the area he or she uses to cultivate cannabis does not exceed 100 square feet and he or she cultivates cannabis for his or her personal medical use and does not sell, distribute, donate, or provide cannabis to any other person or entity. This section does not apply to a primary caregiver cultivating cannabis pursuant to Section 11362.5 if the area he or she uses to cultivate cannabis does not exceed 500 square feet and he or she cultivates cannabis exclusively for the personal medical use of no more than five specified qualified patients for whom he or she is the primary caregiver within the meaning of Section 11362.7 and does not receive remuneration for these activities, except for compensation provided in full compliance with subdivision (c) of Section 11362.765. For purposes of this section, the area used to cultivate cannabis shall be measured by the aggregate area of vegetative growth of live cannabis plants on the premises. Exemption from the requirements of this section does not limit or prevent a city, county, or city and county from exercising its police authority under Section 7 of Article XI of the California Constitution.

11362.9

(a) (1) It is the intent of the Legislature that the state commission objective scientific research by the premier research institute of the world, the University of California, regarding the efficacy and safety of administering marijuana as part of medical treatment. If the Regents of the University of California, by appropriate resolution, accept this responsibility, the University of California shall create a program, to be known as the California Marijuana Research Program.

(2) The program shall develop and conduct studies intended to ascertain the general medical safety and efficacy of marijuana and, if found valuable, shall develop medical guidelines for the appropriate administration and use of marijuana. The studies may include studies to ascertain the effect of marijuana on motor skills.

(b) The program may immediately solicit proposals for research projects to be included in the marijuana studies. Program requirements to be used when evaluating responses to its solicitation for proposals, shall include, but not be limited to, all of the following:

December 13, 2016; this document may not contain the most recent statute language
Page 34
Comprehensive
Medical Cannabis Regulation and Safety Act- 2016

Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

(1) Proposals shall demonstrate the use of key personnel, including clinicians or scientists and support personnel, who are prepared to develop a program of research regarding marijuana’s general medical efficacy and safety.

(2) Proposals shall contain procedures for outreach to patients with various medical conditions who may be suitable participants in research on marijuana.

(3) Proposals shall contain provisions for a patient registry.

(4) Proposals shall contain provisions for an information system that is designed to record information about possible study participants, investigators, and clinicians, and deposit and analyze data that accrues as part of clinical trials.

(5) Proposals shall contain protocols suitable for research on marijuana, addressing patients diagnosed with acquired immunodeficiency syndrome (AIDS) or human immunodeficiency virus (HIV), cancer, glaucoma, or seizures or muscle spasms associated with a chronic, debilitating condition. The proposal may also include research on other serious illnesses, provided that resources are available and medical information justifies the research.

(6) Proposals shall demonstrate the use of a specimen laboratory capable of housing plasma, urine, and other specimens necessary to study the concentration of cannabinoids in various tissues, as well as housing specimens for studies of toxic effects of marijuana.

(7) Proposals shall demonstrate the use of a laboratory capable of analyzing marijuana, provided to the program under this section, for purity and cannabinoid content and the capacity to detect contaminants.

(c) In order to ensure objectivity in evaluating proposals, the program shall use a peer review process that is modeled on the process used by the National Institutes of Health, and that guards against funding research that is biased in favor of or against particular outcomes. Peer reviewers shall be selected for their expertise in the scientific substance and methods of the proposed research, and their lack of bias or conflict of interest regarding the applicants or the topic of an approach taken in the proposed research. Peer reviewers shall judge research proposals on several criteria, foremost among which shall be both of the following:

(1) The scientific merit of the research plan, including whether the research design and experimental procedures are potentially biased for or against a particular outcome.

(2) Researchers’ expertise in the scientific substance and methods of the proposed research, and their lack of bias or conflict of interest regarding the topic of, and the approach taken in, the proposed research.

(d) If the program is administered by the Regents of the University of California, any grant research proposals approved by the program shall also require review and approval by the research advisory panel.

(e) It is the intent of the Legislature that the program be established as follows:

(1) The program shall be located at one or more University of California campuses that have a core of faculty experienced in organizing multidisciplinary scientific endeavors and, in particular, strong experience in clinical trials involving psychopharmacologic agents. The campuses at which research under the auspices of the program is to take place shall accommodate the administrative offices, including the director of the program, as well as data management unit, and facilities for storage of specimens.

(2) When awarding grants under this section, the program shall utilize principles and parameters of the other well-tested statewide research programs administered by the University of California, modeled after programs administered by the National Institutes of Health, including peer review evaluation of the scientific merit of applications.

(3) The scientific and clinical operations of the program shall occur, partly at University of California campuses, and partly at other postsecondary institutions, that have clinicians or scientists with expertise to conduct the required studies. Criteria for selection of research locations shall include the elements listed in subdivision (b) and, additionally, shall give particular weight to the organizational plan, leadership qualities of the program director, and plans to involve investigators and patient populations from multiple sites.

(4) The funds received by the program shall be allocated to various research studies in accordance with a scientific plan developed by the Scientific Advisory Council. As the first wave of studies is completed, it is anticipated that the program will receive requests for funding of additional studies. These requests shall be reviewed by the Scientific Advisory Council.

(5) The size, scope, and number of studies funded shall be commensurate with the amount of appropriated and available program funding.

(f) All personnel involved in implementing approved proposals shall be authorized as required by Section 11604.

(g) Studies conducted pursuant to this section shall include the greatest amount of new scientific research possible on the medical uses of, and medical hazards associated with, marijuana. The program shall consult with the Research Advisory Panel analogous agencies in other states, and appropriate federal agencies in an attempt to avoid duplicative research and the wasting of research dollars.

(h) The program shall make every effort to recruit qualified patients and qualified physicians from throughout the state.

(i) The marijuana studies shall employ state-of-the-art research methodologies.

(j) The program shall ensure that all marijuana used in the studies is of the appropriate medical quality and shall be obtained from the National Institute on Drug Abuse or any other federal agency designated to supply marijuana for authorized

December 13, 2016; this document may not contain the most recent statute language
In order to maximize the scope and size of the marijuana studies, the program may do any of the following:

(1) To enhance understanding of the efficacy and adverse effects of marijuana as a pharmacological agent, the program shall conduct focused controlled clinical trials on the usefulness of marijuana in patients diagnosed with AIDS or HIV, cancer, glaucoma, or seizures or muscle spasms associated with a chronic, debilitating condition. The program may add research on other serious illnesses, provided that resources are available and medical information justifies the research. The studies shall focus on comparisons of both the efficacy and safety of methods of administering the drug to patients, including inhalational, tinctural, and oral, evaluate possible uses of marijuana as a primary or adjunctive treatment, and develop further information on optimal dosage, timing, mode of administration, and variations in the effects of different cannabinoids and varieties of marijuana.

(2) The program shall examine the safety of marijuana in patients with various medical disorders, including marijuana’s interaction with other drugs, relative safety of inhalation versus oral forms, and the effects on mental function in medically ill persons.

(3) The program shall be limited to providing for objective scientific research to ascertain the efficacy and safety of marijuana as part of medical treatment, and should not be construed as encouraging or sanctioning the social or recreational use of marijuana.

(m) Subject to paragraph (2), the program shall, prior to any approving proposals, seek to obtain research protocol guidelines from the National Institutes of Health and shall, if the National Institutes of Health issues research protocol guidelines, comply with those guidelines.

(n) In order to maximize the scope and size of the marijuana studies, the program may do any of the following:

(1) Solicit, apply for, and accept funds from foundations, private individuals, and all other funding sources that can be used to expand the scope or timeframe of the marijuana studies that are authorized under this section. The program shall not expend more than 5 percent of its General Fund allocation in efforts to obtain money from outside sources. Include within the scope of the marijuana studies other marijuana research projects that are independently funded and that meet the requirements set forth in subdivisions (a) to (c), inclusive. In no case shall the program accept any funds that are offered with any conditions other than that the funds be used to study the efficacy and safety of marijuana as part of medical treatment. Any donor shall be advised that funds given for purposes of this section will be used to study both the possible benefits and detriments of marijuana and that he or she will have no control over the use of these funds.

(2) Include within the scope of the marijuana studies other marijuana research projects that are independently funded and that meet the requirements set forth in subdivisions (a) to (c), inclusive. In no case shall the program accept any funds that are offered with any conditions other than that the funds be used to study the efficacy and safety of marijuana as part of medical treatment. Any donor shall be advised that funds given for purposes of this section will be used to study both the possible benefits and detriments of marijuana and that he or she will have no control over the use of these funds.

(o) Within six months of the effective date of this section, the program shall report to the Legislature, the Governor, and the Attorney General on the progress of the marijuana studies.

(1) Thereafter, the program shall issue a report to the Legislature every six months detailing the progress of the studies. The interim reports required under this paragraph shall include, but not be limited to, data on all of the following:

(A) The names and number of disease or conditions under study.

(B) The number of patients enrolled in each study by disease.

(C) Any scientifically valid preliminary findings.

(p) If the Regents of the University of California implement this section, the President of the University of California shall appoint a multidisciplinary Scientific Advisory Council, not to exceed 15 members, to provide policy guidance in the creation and implementation of the program. Members shall be chosen on the basis of scientific expertise. Members of the council shall serve on a voluntary basis, with reimbursement for expenses incurred in the course of their participation. The members shall be reimbursed for travel and other necessary expenses incurred in their performance of the duties of the council.

December 13, 2016; this document may not contain the most recent statute language
(q) No more than 10 percent of the total funds appropriated may be used for all aspects of the administration of this section.

(r) This section shall be implemented only to the extent that funding for its purposes is appropriated by the Legislature in the annual Budget Act.

ARTICLE 2.5 MEDICAL MARIJUANA PROGRAM (11362.7 – 11362.83)

11362.769. Indoor and outdoor medical cannabis cultivation shall be conducted in accordance with state and local laws. State agencies, including, but not limited to, the Department of Food and Agriculture, the State Board of Forestry and Fire Protection, the Department of Fish and Wildlife, the State Water Resources Control Board, the California regional water quality control boards, and traditional state law enforcement agencies shall address environmental impacts of medical cannabis cultivation and shall coordinate, when appropriate, with cities and counties and their law enforcement agencies in enforcement efforts.

REVENUE AND TAXATION CODE

DIVISION 2 PART 14.5. MARIJUANA TAX

34010. For purposes of this part:

(a) "Board" shall mean the Board of Equalization or its successor agency.

(b) "Bureau" shall mean the Bureau of Marijuana Control within the Department of Consumer Affairs.

(c) "Tax Fund" means the California Marijuana Tax Fund created by Section 34018.

(d) "Marijuana" shall have the same meaning as set forth in Section 11018 of the Health and Safety Code and shall also mean medical cannabis.

(e) "Marijuana products" shall have the same meaning as set forth in Section 11018.1 of the Health and Safety Code and shall also mean medical cannabis.

(f) "Marijuana flowers" shall mean the dried flowers of the marijuana plant as defined by the Board.

(g) "Marijuana leaves" shall mean all parts of the marijuana plant other than marijuana flowers that are sold or consumed.

(h) "Gross receipts" shall have the same meaning as set forth in Section 6012.

(i) "Retail sale" shall have the same meaning as set forth in Section 6007.

(j) "Person" shall have the same meaning as set for in section 6005.

(k) "Microbusiness" shall have the same meaning as set for in Section 26070(a)(3) of the Business and Professions Code.

(l) "Nonprofit" shall have the same meaning as set for in Section 26070.5 of the Business and Professions Code.

34011.

(a) Effective January 1, 2018, a marijuana excise tax shall be imposed upon purchasers of marijuana or marijuana products sold in this state at the rate off fifteen percent (15%) of the gross receipts of any retail sale by a dispensary or other person required to be licensed pursuant to Chapter 3.5 of Division 8 of the Business and Professions Code or a retailer, microbusiness, nonprofit, or other person required to be licensed pursuant to Division 10 of the Business and Professions Code to sell marijuana and marijuana products directly to a purchaser.

(b) Except as otherwise provided by regulation, the tax levied under this section shall apply to the full price, if non-itemized, of any transaction involving both marijuana or marijuana products and any other otherwise distinct and identifiable goods or services, and the price of any goods or services, if a reduction in the price of marijuana or marijuana products is contingent on purchase of those goods or services.

(c) A dispensary or other person required to be licensed pursuant to Chapter 3.5 of Division 8 of the Business and Professions Code or a retailer, microbusiness, nonprofit, or other person required to be licensed pursuant to Division 10 of the Business and Professions Code shall be responsible for collecting this tax and remitting it to the board in accordance with rules and procedures established under law and any regulations adopted by the board.

(d) The excise tax imposed by this section shall be in addition to the sales and use tax imposed by the state and local governments.

(e) Gross receipts from the sale of marijuana or marijuana products for purposes of assessing the sales and use tax under Part 1 of this division shall include the tax levied pursuant to this section.

December 13, 2016; this document may not contain the most recent statute language
Comprehensive
Medical Cannabis Regulation and Safety Act- 2016

Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

(f) No marijuana or marijuana products may be sold to a purchaser unless the excise tax required by law has been paid by the purchaser at the time of sale.

(g) The sales and use tax imposed by Part 1 of this division shall not apply to retail sales of medical cannabis, medical cannabis concentrate, edible medical cannabis products or topical cannabis as those terms are defined in Chapter 3.5 of Division 8 of the Business and Professions Code when a qualified patient (or primary caregiver for a qualified patient) provides his or her card issued under Section 11362.71 of the Health and Safety Code and a valid government issued identification card.

34012.
(a) Effective January 1, 2018, there is hereby imposed a cultivation tax on all harvested marijuana that enters the commercial market upon all persons required to be licensed to cultivate marijuana pursuant to Chapter 3.5 of Division 8 of the Business and Professions Code or Division 10 of the Business and Professions Code. The tax shall be due after the marijuana is harvested.

(1) The tax for marijuana flowers shall be nine dollars and twenty five cents ($9.25) per dry-weight ounce.

(2) The tax for marijuana leaves shall be set at two dollars and seventy five cents ($2.75) per dry-weight ounce.

(b) The board may adjust the tax rate for marijuana leaves annually to reflect fluctuations in the relative price of marijuana flowers to marijuana leaves.

(c) The board may from time to time establish other categories of harvested marijuana, categories for unprocessed or frozen marijuana or immature plants, or marijuana that is shipped directly to manufacturers. These categories shall be taxed at their relative value compared with marijuana flowers.

(d) The board may prescribe by regulation a method and manner for payment of the cultivation tax that utilizes tax stamps or state-issued product bags that indicate that all required tax has been paid on the product to which the tax stamp is affixed or in which the marijuana is packaged.

(e) The tax stamps and product bags shall be of the designs, specifications and denominations as may be prescribed by the board and may be purchased by any licensee under Chapter 3.5 of Division 8 of the Business and Professions Code or under Division 10 of the Business and Professions Code.

(f) Subsequent to the establishment of a tax stamp program, the board may by regulation provide that no marijuana may be removed from a licensed cultivation facility or transported on a public highway unless in a state-issued product bag bearing a tax stamp in the proper denomination.

(g) The tax stamps and product bags shall be capable of being read by a scanning or similar device and must be traceable utilizing the track and trace system pursuant to Section 26170 of the Business and Professions Code.

(h) Persons required to be licensed to cultivate marijuana pursuant to Chapter 3.5 of Division 8 of the Business and Professions Code or Division 10 of the Business and Professions Code shall be responsible for payment of the tax pursuant to regulations adopted by the board. No marijuana may be sold unless the tax has been paid as provided in this part.

(i) All marijuana removed from a cultivator's premises, except for plant waste, shall be presumed to be sold and thereby taxable under this section.

(j) The tax imposed by this section shall be imposed on all marijuana cultivated in the state pursuant to rules and regulations promulgated by the board, but shall not apply to marijuana cultivated for personal use under Section 11362.1 of the Health and Safety Code or cultivated by a qualified patient or primary caregiver in accordance with the Compassionate Use Act.

(k) Beginning January 1, 2020, the rates set forth in subdivisions (a), (b), and (c) shall be adjusted by the board annually thereafter for inflation.

34013.
(a) The board shall administer and collect the taxes imposed by this part pursuant to the Fee Collection Procedures Law (Part 30 (commencing with Section 55001) of Division 2 of the Revenue and Taxation Code). For purposes of this part, the references in the Fee Collection Procedures Law to "fee" shall include the tax imposed by this part, and references to "fee-payer" shall include a person required to pay or collect the tax imposed by this part.

(b) The board may prescribe, adopt, and enforce regulations relating to the administration and enforcement of this part, including, but not limited to, collections, reporting, refunds, and appeals.
(c) The board shall adopt necessary rules and regulations to administer the taxes in this part. Such rules and regulations may include methods or procedures to tag marijuana or marijuana products, or the packages thereof, to designate prior tax payment.

(d) The board may prescribe, adopt, and enforce any emergency regulations as necessary to implement, administer and enforce its duties under this division. Any emergency regulation prescribed, adopted, or enforced pursuant to this section shall be adopted in accordance with Chapter 3.5 (commencing with section 11340) of Part 1 of Division 3 of Title 2 of the Government Code, and, for purposes of that chapter, including Section 11349.6 of the Government Code, the adoption of the regulation is an emergency and shall be considered by the Office of Administrative Law as necessary for the immediate preservation of the public peace, health and safety, and general welfare. Notwithstanding any other provision of law, the emergency regulations adopted by the board may remain in effect for two years from adoption.

(e) Any person who fails to pay the taxes imposed under this part shall, in addition to owing the taxes not paid, be subject to a penalty of at least one-half the amount of the taxes not paid, and shall be subject to having its license revoked pursuant to Section 26031 of the Business and Professions Code or pursuant to Chapter 3.5 of Division 8 of the Business and Professions Code.

(f) The board may bring such legal actions as are necessary to collect any deficiency in the tax required to be paid, and, upon the board’s request, the Attorney General shall bring the actions.

34014.

(a) All persons required to be licensed involved in the cultivation and retail sale of marijuana or marijuana products must obtain a separate permit from the board pursuant to regulations adopted by the board. No fee shall be charged to any person for issuance of the permit. Any person required to obtain a permit who engages in business as a cultivator, dispensary, retailer, microbusiness or nonprofit pursuant to Chapter 3.5 of Division 8 of the Business and Professions Code or Division 10 of the Business and Professions Code without a permit or after a permit has been canceled, suspended, or revoked, and each officer of any corporation which so engages in business, is guilty of a misdemeanor.

(b) The board may require every licensed dispensary, cultivator, microbusiness, nonprofit, or other person required to be licensed, to provide security to cover the liability for taxes imposed by state law on marijuana produced or received by the cultivator, microbusiness, nonprofit, or other person required to be licensed in accordance with procedures to be established by the board. Notwithstanding anything herein to the contrary, the board may waive any security requirement it imposes for good cause, as determined by the board. "Good cause II includes, but is not limited to, the inability of a cultivator, microbusiness, nonprofit, or other person required to be licensed to obtain service due to a lack of service providers or the policies of service providers that prohibit service to a marijuana business. A person may not commence or continue any business or operation relating to marijuana cultivation until any surety required by the board with respect to the business or operation have been properly prepared, executed and submitted under this part.

(c) In fixing the amount of any security required by the board, the board shall give consideration to the financial hardship that may be imposed on licensees as a result of any shortage of available surety providers.

34015.

(a) The marijuana excise tax and cultivation tax imposed by this part is due and payable to the board quarterly on or before the last day of the month following each quarterly period of three months. On or before the last day of the month following each quarterly period, a return for the preceding quarterly period shall be filed with the board by each person required to be licensed for cultivation or retail sale under Divisions 8 or 10 of the Business and Professions Code using electronic media. Returns shall be authenticated in a form or pursuant to methods as may be prescribed by the board. If the cultivation tax is paid by stamp pursuant to section 34012(d) the board may by regulation determine when and how the tax shall be paid.

(b) The board may require every person engaged in the cultivation, distribution or retail sale of marijuana and marijuana products required to be licensed pursuant to Chapter 3.5 of Division 8 of the Business or Professions Code or Division 10 of the Business and Professions Code to file, on or before the 25th day of each month, a report using electronic media respecting the person’s inventory, purchases, and sales during the preceding month and any other information as the board may require to carry out the purposes of this part. Reports shall be authenticated in a form or pursuant to methods as may be prescribed by the board.

December 13, 2016; this document may not contain the most recent statute language

Appendix B-39
Comprehensive
Medical Cannabis Regulation and Safety Act- 2016

Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

34016.

(a) Any peace officer, or board employee granted limited peace officer status pursuant to paragraph (6) of subdivision (a) of Section 830.11 of the Penal Code, upon presenting appropriate credentials, is authorized to enter any place as described in paragraph (3) and to conduct inspections in accordance with the following paragraphs, inclusive.

(1) Inspections shall be performed in a reasonable manner and at times that are reasonable under the circumstances, taking into consideration the normal business hours of the place to be entered.

(2) Inspections may be at any place at which marijuana or marijuana products are sold to purchasers, cultivated, or stored, or at any site where evidence of activities involving evasion of tax may be discovered.

(3) Inspections shall be requested or conducted no more than once in a 24-hour period.

(b) Any person who fails or refuses to allow an inspection shall be subject to a misdemeanor. Each offense shall be punished by a fine not to exceed five thousand dollars ($5,000), or imprisonment not exceeding one year in a county jail, or both the fine and imprisonment. The court shall order any fines assessed be deposited in the California Marijuana Tax Fund.

(c) Upon discovery by the board or a law enforcement agency that a licensee or any other person possesses, stores, owns, or has made a retail sale of marijuana or marijuana products, without evidence of tax payment or not contained in secure packaging, the board or the law enforcement agency shall be authorized to seize the marijuana or marijuana products. Any marijuana or marijuana products seized by a law enforcement agency or the board shall within seven days be deemed forfeited and the board shall comply with the procedures set forth in Sections 30436 through 30449, inclusive.

(d) Any person who renders a false or fraudulent report is guilty of a misdemeanor and subject to a fine not to exceed one thousand dollars ($1,000) for each offense.

(e) Any violation of any provisions of this part, except as otherwise provided, is a misdemeanor and is punishable as such.

(f) All moneys remitted to the board under this part shall be credited to the California Marijuana Tax Fund.

34017.
The Legislative Analyst's Office shall submit a report to the Legislature by January 1, 2020, with recommendations to the Legislature for adjustments to the tax rate to achieve the goals of undercutting illicit market prices and discouraging use by persons younger than 21 years of age while ensuring sufficient revenues are generated for the programs identified in Section 34019.

34018.

(a) The California Marijuana Tax Fund is hereby created in the State Treasury. The Tax Fund shall consist of all taxes, interest, penalties, and other amounts collected and paid to the board pursuant to this part, less payment of refunds.

(b) Notwithstanding any other law, the California Marijuana Tax Fund is a special trust fund established solely to carry out the purposes of the Control, Regulate and Tax Adult Use of Marijuana Act and all revenues deposited into the Tax Fund, together with interest or dividends earned by the fund, are hereby continuously appropriated for the purposes of the Control, Regulate and Tax Adult Use of Marijuana Act without regard to fiscal year and shall be expended only in accordance with the provisions of this part and its purposes.

(c) Notwithstanding any other law, the taxes imposed by this part and the revenue derived therefrom, including investment interest, shall not be considered to be part of the General Fund, as that term is used in Chapter I (commencing with section 16300) of Part 2 of Division 4 of the Government Code, shall not be considered General Fund revenue for purposes of Section 8 of Article XVI of the California Constitution and its implementing statutes, and shall not be considered "moneys" for purposes of subdivisions (a) and (b) of Section 8 of Article XVI of the California Constitution and its implementing statutes.

34019.

(a) Beginning with fiscal year 2017-2018 the Department of Finance shall estimate revenues to be received pursuant to sections 34011 and 34012 and provide those estimates to the Controller no later than June 15 of each year. The Controller shall use these estimates when disbursing funds pursuant to this section. Before any funds are disbursed pursuant to subdivisions (b), (c), (d), and (e) of this section the Controller shall disburse from the Tax Fund to the appropriate account, without regard to fiscal year, the following:

December 13, 2016; this document may not contain the most recent statute language
Page 40
Comprehensive
Medical Cannabis Regulation and Safety Act- 2016

Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

(1) Reasonable costs incurred by the board for administering and collecting the taxes imposed by this part; provided, however, such costs shall not exceed four percent (4%) of tax revenues received.

(2) Reasonable costs incurred by the Bureau, the Department of Consumer Affairs, the Department of Food and Agriculture, and the Department of Public Health for implementing, administering, and enforcing Chapter 3.5 of Division 8 of the Business and Professions Code and Division 10 of the Business and Professions Code to the extent those costs are not reimbursed pursuant to Section 26180 of the Business and Professions Code or pursuant to Chapter 3.5 of Division 8 of the Business and Professions Code. This paragraph shall remain operative through fiscal year 2022-2023.

(3) Reasonable costs incurred by the Department of Fish and Wildlife, the State Water Resources Control Board, and the Department of Pesticide Regulation for carrying out their respective duties under Chapter 3.5 of Division 8 of the Business and Professions Code or Division 10 of the Business and Professions Code to the extent those costs are not otherwise reimbursed.

(4) Reasonable costs incurred by the Controller for performing duties imposed by the Control, Regulate and Tax Adult Use of Marijuana Act, including the audit required by Section 34020.

(5) Reasonable costs incurred by the State Auditor for conducting the performance audit pursuant to Section 26191 of the Business and Professions Code.

(6) Reasonable costs incurred by the Legislative Analyst's Office for performing duties imposed by Section 34017.

(7) Sufficient funds to reimburse the Division of Labor Standards Enforcement and Occupational Safety and Health within the Department of Industrial Relations and the Employment Development Department for the costs of applying and enforcing state labor laws to licensees under Chapter 3.5 of Division 8 of the Business and Professions Code and Division 10 of the Business and Professions Code.

(b) The Controller shall next disburse the sum of ten million dollars ($10,000,000) to a public university or universities in California annually beginning with fiscal year 2018-2019 until fiscal year 2028-2029 to research and evaluate the implementation and effect of the Control, Regulate and Tax Adult Use of Marijuana Act, and shall, if appropriate, make recommendations to the Legislature and Governor regarding possible amendments to the Control, Regulate and Tax Adult Use of Marijuana Act. The recipients of these funds shall publish reports on their findings at a minimum of every two years and shall make the reports available to the public. The Bureau shall select the universities to be funded. The research funded pursuant to this subdivision shall include but not necessarily be limited to:

(1) Impacts on public health, including health costs associated with marijuana use, as well as whether marijuana use is associated with an increase or decrease in use of alcohol or other drugs.

(2) The impact of treatment for maladaptive marijuana use and the effectiveness of different treatment programs.

(3) Public safety issues related to marijuana use, including studying the effectiveness of the packaging and labeling requirements and advertising and marketing restrictions contained in the Act at preventing underage access to and use of marijuana and marijuana products, and studying the health-related effects among users of varying potency levels of marijuana and marijuana products.

(4) Marijuana use rates, maladaptive use rates for adults and youth, and diagnosis rates of marijuana-related substance use disorders.

(5) Marijuana market prices, illicit market prices, tax structures and rates, including an evaluation of how to best tax marijuana based on potency, and the structure and function of licensed marijuana businesses.

(6) Whether additional protections are needed to prevent unlawful monopolies or anticompetitive behavior from occurring in the nonmedical marijuana industry and, if so, recommendations as to the most effective measures for preventing such behavior.

(7) The economic impacts in the private and public sectors, including but not necessarily limited to, job creation, workplace safety, revenues, taxes generated for state and local budgets, and criminal justice impacts, including, but not necessarily limited to, impacts on law enforcement and public resources, short and long term consequences of involvement in the criminal justice system, and state and local government agency administrative costs and revenue.

(8) Whether the regulatory agencies tasked with implementing and enforcing the Control, Regulate and Tax Adult Use of Marijuana Act are doing so consistent with the purposes of the Act, and whether different agencies might do so more effectively.

(9) Environmental issues related to marijuana production and the criminal prohibition of marijuana production.

Appendix B-41
Comprehensive
Medical Cannabis Regulation and Safety Act- 2016

Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

(10) The geographic location, structure, and function of licensed marijuana businesses, and demographic data, including race, ethnicity, and gender, of license holders.

(11) The outcomes achieved by the changes in criminal penalties made under the Control, Regulate, and Tax Adult Use of Marijuana Act for marijuana-related offenses, and the outcome of the juvenile justice system, in particular, probation-based treatments and the frequency of up-charging illegal possession of marijuana or marijuana products to a more serious offense.

(c) The Controller shall next disburse the sum of three million dollars ($3,000,000) annually to the Department of the California Highway Patrol beginning fiscal year 2018-2019 until fiscal year 2022-2023 to establish and adopt protocols to determine whether a driver is operating a vehicle while impaired, including impairment by the use of marijuana or marijuana products, and to establish and adopt protocols setting forth best practices to assist law enforcement agencies. The department may hire personnel to establish the protocols specified in this subdivision. In addition, the department may make grants to public and private research institutions for the purpose of developing technology for determining when a driver is operating a vehicle while impaired, including impairment by the use of marijuana or marijuana products.

(d) The Controller shall next disburse the sum of ten million dollars ($10,000,000) beginning fiscal year 2018-2019 and increasing ten million dollars ($10,000,000) each fiscal year thereafter until fiscal year 2022-2023, at which time the disbursement shall be fifty million dollars ($50,000,000) each year thereafter, to the Governor’s Office of Business and Economic Development, in consultation with the Labor and Workforce Development Agency and the Department of Social Services, to administer a Community Reinvestments grants program to local health departments and at least fifty-percent to qualified community-based nonprofit organizations to support job placement, mental health treatment, substance use disorder treatment, system navigation services, legal services to address barriers to reentry, and linkages to medical care for communities disproportionately affected by past federal and state drug policies. The Office shall solicit input from community-based job skills, job placement, and legal service providers with relevant expertise as to the administration of the grants program. In addition, the Office shall periodically evaluate the programs it is funding to determine the effectiveness of the programs, shall not spend more than four percent (4%) for administrative costs related to implementation, evaluation and oversight of the programs, and shall award grants annually, beginning no later than January 1, 2020.

(e) The Controller shall next disburse the sum of two million dollars ($2,000,000) annually to the University of California San Diego Center for Medicinal Cannabis Research to further the objectives of the Center including the enhanced understanding of the efficacy and adverse effects of marijuana as a pharmacological agent.

(f) By July 15 of each fiscal year beginning in fiscal year 2018-2019, the Controller shall, after disbursing funds pursuant to subdivisions (a), (b), (c), (d), and (e), disburse funds deposited in the Tax Fund during the prior fiscal year into sub-trust accounts, which are hereby created, as follows:

(1) Sixty percent (60%) shall be deposited in the Youth Education, Prevention, Early Intervention and Treatment Account, and disbursed by the Controller to the Department of Health Care Services for programs for youth that are designed to educate about and to prevent substance use disorders and to prevent harm from substance use. The Department of Health Care services shall enter into inter-agency agreements with the Department of Public Health and the Department of Education to implement and administer these programs. The programs shall emphasize accurate education, effective prevention, early intervention, school retention, and timely treatment services for youth, their families and caregivers. The programs may include, but are not limited to, the following components:

(A) Prevention and early intervention services including outreach, risk survey and education to youth, families, caregivers, schools, primary care health providers, behavioral health and substance use disorder service providers, community and faith-based organizations, foster care providers, juvenile and family courts, and others to recognize and reduce risks related to substance use, and the early signs of problematic use and of substance use disorders.

(B) Grants to schools to develop and support Student Assistance Programs, or other similar programs, designed to prevent and reduce substance use, and improve school retention and performance, by supporting students who are at risk of dropping out of school and promoting alternatives to suspension or expulsion that focus on school retention, remediation, and professional care. Schools with higher than average dropout rates should be prioritized for grants.
This statute has been replaced with the Medicinal and Adult-Use Regulation and Safety Act (included in this PEIR as Appendix H), but is presented here for informational purposes.

Appendix B

Comprehensive

Medical Cannabis Regulation and Safety Act- 2016

Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

(C) Grants to programs for outreach, education and treatment for homeless youth and out-of-school youth with substance use disorders.

(D) Access and linkage to care provided by county behavioral health programs for youth, and their families and caregivers, who have a substance use disorder or who are at risk for developing a substance use disorder.

(E) Youth-focused substance use disorder treatment programs that are culturally and gender competent, trauma-informed, evidence-based and provide a continuum of care that includes, screening and assessment (substance use disorder as well as mental health), early intervention, active treatment, family involvement, case management, overdose prevention, prevention of communicable diseases related to substance use, relapse management for substance use and other co-occurring behavioral health disorders, vocational services, literacy services, parenting classes, family therapy and counseling services, medication-assisted treatments, psychiatric medication and psychotherapy. When indicated, referrals must be made to other providers.

(F) To the extent permitted by law and where indicated, interventions shall utilize a two generation approach to addressing substance use disorders with the capacity to treat youth and adults together. This would include supporting the development of family-based interventions that address substance use disorders and related problems within the context of families, including parents, foster parents, caregivers and all their children.

(G) Programs to assist individuals, as well as families and friends of drug using young people, to reduce the stigma associated with substance use including being diagnosed with a substance use disorder or seeking substance use disorder services. This includes peer-run outreach and education to reduce stigma, anti-stigma campaigns, and community recovery networks.

(H) Workforce training and wage structures that increase the hiring pool of behavioral health staff with substance use prevention and treatment expertise. Provide ongoing education and coaching that increases substance use treatment providers’ core competencies and trains providers on promising and evidenced-based practices.

(I) Construction of community-based youth treatment facilities.

(J) The departments may contract with each county behavioral health program for the provision of services.

(K) Funds shall be allocated to counties based on demonstrated need, including the number of youth in the county, the prevalence of substance use disorders among adults, and confirmed through statistical data, validated assessments or submitted reports prepared by the applicable county to demonstrate and validate need.

(L) The departments shall periodically evaluate the programs they are funding to determine the effectiveness of the programs.

(M) The departments may use up to four percent (4%) of the moneys allocated to the Youth Education, Prevention, Early Intervention and Treatment Account for administrative costs related to implementation, evaluation and oversight of the programs.

(N) If the Department of Finance ever determines that funding pursuant to marijuana taxation exceeds demand for youth prevention and treatment services in the state, the departments shall provide a plan to the Department of Finance to provide treatment services to adults as well as youth using these funds.

(O) The departments shall solicit input from volunteer health organizations, physicians who treat addiction, treatment researchers, family therapy and counseling providers, and professional education associations with relevant expertise as to the administration of any grants made pursuant to this paragraph.

(2) Twenty percent (20%) shall be deposited in the Environmental Restoration and Protection Account, and disbursed by the Controller as follows:

(A) To the Department of Fish and Wildlife and the Department of Parks and Recreation for the cleanup, remediation, and restoration of environmental damage in watersheds affected by marijuana cultivation and related activities including, but not limited to, damage that occurred prior to enactment of this part, and to support local partnerships for this purpose. The Department of Fish and Wildlife and the Department of Parks and Recreation may distribute a portion of the funds they receive from the Environmental Restoration and Protection Account through grants for purposes specified in this paragraph.

(B) To the Department of Fish and Wildlife and the Department of Parks and Recreation for the stewardship and operation of state-owned wildlife habitat areas and state park units in a manner that discourages and prevents the illegal cultivation, production, sale and use of marijuana and marijuana products on public lands, and to

December 13, 2016; this document may not contain the most recent statute language

Page 43

Appendix B-43
Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

facilitate the investigation, enforcement and prosecution of illegal cultivation, production, sale, and use of marijuana or marijuana products on public lands.

(C) To the Department of Fish and Wildlife to assist in funding the watershed enforcement program and multiagency task force established pursuant to subdivisions (b) and (c) of Section 12029 of the Fish and Game Code to facilitate the investigation, enforcement, and prosecution of these offenses and to ensure the reduction of adverse impacts of marijuana cultivation, production, sale, and use on fish and wildlife habitats throughout the state.

(D) For purposes of this paragraph, the Secretary of the Natural Resources Agency shall determine the allocation of revenues between the departments. During the first five years of implementation, first consideration should be given to funding purposes specified in subparagraph (A).

(E) Funds allocated pursuant to this paragraph shall be used to increase and enhance activities described in subparagraphs (A), (B), and (C), and not replace allocation of other funding for these purposes. Accordingly, annual General Fund appropriations to the Department of Fish and Wildlife and the Department of Parks and Recreation shall not be reduced below the levels provided in the Budget Act of 2014 (Chapter 25 of Statutes of 2014).

(3) Twenty percent (20%) shall be deposited into the State and Local Government Law Enforcement Account and disbursed by the Controller as follows:

(A) To the Department of the California Highway Patrol for conducting training programs for detecting, testing and enforcing laws against driving under the influence of alcohol and other drugs, including driving under the influence of marijuana. The Department may hire personnel to conduct the training programs specified in this subparagraph.

(B) To the Department of the California Highway Patrol to fund internal California Highway Patrol programs and grants to qualified nonprofit organizations and local governments for education, prevention and enforcement of laws related to driving under the influence of alcohol and other drugs, including marijuana; programs that help enforce traffic laws, educate the public in traffic safety, provide varied and effective means of reducing fatalities, injuries and economic losses from collisions; and for the purchase of equipment related to enforcement of laws related to driving under the influence of alcohol and other drugs, including marijuana.

(C) To the Board of State and Community Corrections for making grants to local governments to assist with law enforcement, fire protection, or other local programs addressing public health and safety associated with the implementation of the Control, Regulate and Tax Adult Use of Marijuana Act. The Board shall not make any grants to local governments which have banned the cultivation, including personal cultivation under Section 11362.2(b)(3) of the Health and Safety Code, or retail sale of marijuana or marijuana products pursuant to Section 26200 of the Business and Professions Code or as otherwise provided by law.

(D) For purposes of this paragraph the Department of Finance shall determine the allocation of revenues between the agencies; provided, however, beginning in fiscal year 2022-2023 the amount allocated pursuant to subparagraph (A) shall not be less than ten million dollars ($10,000,000) annually and the amount allocated pursuant to subparagraph (B) shall not be less than forty million dollars ($40,000,000) annually. In determining the amount to be allocated before fiscal year 2022-2023 pursuant to this paragraph, the Department of Finance shall give initial priority to subparagraph (A).

(g) Funds allocated pursuant to subdivision (j) shall be used to increase the funding of programs and purposes identified and shall not be used to replace allocation of other funding for these purposes.

(h) Effective July 1, 2028, the Legislature may amend this section by majority vote to further the purposes of the Control, Regulate and Tax Adult Use of Marijuana Act, including allocating funds to programs other than those specified in subdivisions (d) and (j) of this section. Any revisions pursuant to this subdivision shall not result in a reduction of funds to accounts established pursuant to subdivisions (d) and (j) in any subsequent year from the amount allocated to each account in fiscal year 2027-2028. Prior to July 1, 2028, the Legislature may not change the allocations to programs specified in subdivisions (d) and (j) of this section.
34021. (a) The taxes imposed by this Part shall be in addition to any other tax imposed by a city, county, or city and county.

34021.5 (a)

(1) A county may impose a tax on the privilege of cultivating, manufacturing, producing, processing, preparing, storing, providing, donating, selling, or distributing marijuana or marijuana products by a licensee operating under Chapter 3.5 of Division 8 of the Business and Professions Code or Division 10 of the Business and Professions Code.

(2) The board of supervisors shall specify in the ordinance proposing the tax the activities subject to the tax, the applicable rate or rates, the method of apportionment, if necessary, and the manner of collection of the tax. The tax may be imposed for general governmental purposes or for purposes specified in the ordinance by the board of supervisors.

(3) In addition to any other method of collection authorized by law, the board of supervisors may provide for the collection of the tax imposed pursuant to this section in the same manner, and subject to the same penalties and priority of lien, as other charges and taxes fixed and collected by the county. A tax imposed pursuant to this section is a tax and not a fee or special assessment. The board of supervisors shall specify whether the tax applies throughout the entire county or within the unincorporated area of the county.

(4) The tax authorized by this section may be imposed upon any or all of the activities set forth in paragraph (1), as specified in the ordinance, regardless of whether the activity is undertaken individually, collectively, or cooperatively, and regardless of whether the activity is for compensation or gratuitous, as determined by the board of supervisors.

(b) A tax imposed pursuant to this section shall be subject to applicable voter approval requirements imposed by law.

(c) This section is declaratory of existing law and does not limit or prohibit the levy or collection of any other fee, charge, or tax, or a license or service fee or charge upon, or related to, the activities set forth in subdivision (a) as otherwise provided by law. This section shall not be construed as a limitation upon the taxing authority of a county as provided by law.

(d) This section shall not be construed to authorize a county to impose a sales or use tax in addition to the sales and use tax imposed under an ordinance conforming to the provisions of Sections 7202 and 7203 of the Revenue and Taxation Code.

WATER CODE

DIVISION 2 PART 1. GENERAL PROVISIONS
CHAPTER 2. ADMINISTRATIVE PROVISIONS GENERALLY (1050 - 1060)

1058.5. (a) This section applies to any emergency regulation adopted by the board for which the board makes both of the following findings:

(1) The emergency regulation is adopted to prevent the waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion, of water, to promote water recycling or water conservation, to require curtailment of diversions when water is not available under the diverter’s priority of right, or in furtherance of any of the foregoing, to require reporting of diversion or use or the preparation of monitoring reports.

(2) The emergency regulation is adopted in response to conditions which exist, or are threatened, in a critically dry year immediately preceded by two or more consecutive below normal, dry, or critically dry years or during a period for which the Governor has issued a proclamation of a state of emergency under the California Emergency Services Act (Chapter 7 (commencing with Section 8550) of Division 1 of Title 2 of the Government Code) based on drought conditions.

(b) Notwithstanding Sections 11346.1 and 11349.6 of the Government Code, any findings of emergency adopted by the board, in connection with the adoption of an emergency regulation under this section, are not subject to review by the Office of Administrative Law.

(c) An emergency regulation adopted by the board under this section may remain in effect for up to 270 days, as determined by the board, and is deemed repealed immediately upon a finding by the board that due to changed conditions it is no longer necessary for the regulation to remain in effect. An emergency regulation adopted by the board under this section may be renewed if the board determines that the conditions specified in paragraph (2) of subdivision (a) are still in effect.
This statute has been replaced with the Medicinal and Adult-Use Regulation and Safety Act (included in this PEIR as Appendix H), but is presented here for informational purposes.

Comprehensive
Medical Cannabis Regulation and Safety Act- 2016

Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

(d) In addition to any other applicable civil or criminal penalties, any person or entity who violates a regulation adopted by the board pursuant to this section is guilty of an infraction punishable by a fine of up to five hundred dollars ($500) for each day in which the violation occurs.

(e) Notwithstanding subdivision (b) of Section 1551 or subdivision (e) of Section 1848, a civil liability imposed under Chapter 12 (commencing with Section 1825) of Part 2 of Division 2 by the board or a court for a violation of an emergency conservation regulation adopted pursuant to section shall be deposited, and separately accounted for, in the Water Rights Fund. Funds deposited in accordance with this subdivision shall be available, upon appropriation, for water conservation activities and programs.

DIVISION 2 PART 2. APPROPRIATION OF WATER
CHAPTER 8. WATER RIGHT FEES
ARTICLE 1. FEE SCHEDULES (1525 – 1530)

1525.
(a) Each person or entity who holds a permit or license to appropriate water, and each lessor of water leased under Chapter 1.5 (commencing with Section 1020) of Part 1, shall pay an annual fee according to a fee schedule established by the board.

(b) Each person or entity who files any of the following shall pay a fee according to a fee schedule established by the board:

1. An application for a permit to appropriate water.
2. A registration of appropriation for a small domestic use, small irrigation use, or livestock stockpond use.
3. A petition for an extension of time within which to begin construction, to complete construction, or to apply the water to full beneficial use under a permit.
4. A petition to change the point of diversion, place of use, or purpose of use, under a permit, license, or registration.
5. A petition to change the conditions of a permit or license, requested by the permittee or licensee, that is not otherwise subject to paragraph (3) or (4).
6. A petition to change the point of discharge, place of use, or purpose of use, of treated wastewater, requested pursuant to Section 1211.
7. An application for approval of a water lease agreement.
8. A request for release from priority pursuant to Section 10504.
9. An application for an assignment of a state-filed application pursuant to Section 10504.
10. A statement of water diversion and use pursuant to Part 5.1 (commencing with Section 5100) that reports that water was used for cannabis cultivation.

(c) The board shall set the fee schedule authorized by this section so that the total amount of fees collected pursuant to this section equals that amount necessary to recover costs incurred in connection with the issuance, administration, review, monitoring, and enforcement of permits, licenses, certificates, and registrations to appropriate water, water leases, statements of water diversion and use for cannabis cultivation, and orders approving changes in point of discharge, place of use, or purpose of use of treated wastewater. The board may include, as recoverable costs, but is not limited to including, the costs incurred in reviewing applications, registrations, statements of water diversion and use for cannabis cultivation, petitions and requests, prescribing terms of permits, licenses, registrations, and change orders, enforcing and evaluating compliance with permits, licenses, certificates, registrations, change orders, and water leases, inspection, monitoring, planning, modeling, reviewing documents prepared for the purpose of regulating the diversion and use of water, applying and enforcing the prohibition set forth in Section 1052 against the unauthorized diversion or use of water subject to this division and the water diversion related provisions of Article 6 (commencing with Section 19331) of Chapter 3.5 of Division 8 of the Business and Professions Code, and the administrative costs incurred in connection with carrying out these actions.

(d) The board shall adopt the schedule of fees authorized under this section as emergency regulations in accordance with Section 1530.

(1) For filings subject to subdivision (b), the schedule may provide for a single filing fee or for an initial filing fee followed by an annual fee, as appropriate to the type of filing involved, and may include supplemental fees for filings that have already been made but have not yet been acted upon by the board at the time the schedule of fees takes effect.

December 13, 2016; this document may not contain the most recent statute language

Page 46
The board shall set the amount of total revenue collected each year through the fees authorized by this section at an amount equal to the amounts appropriated by the Legislature for expenditure for support of water rights program activities from the Water Rights Fund established under Section 1550, taking into account the reserves in the Water Rights Fund. The board shall review and revise the fees each fiscal year as necessary to conform with the amounts appropriated. If the board determines that the revenue collected during the preceding year was greater than, or less than, the amounts appropriated, the board may further adjust the annual fees to compensate for the over or under collection of revenue.

Annual fees imposed pursuant to this section for the 2003–04 fiscal year shall be assessed for the entire 2003–04 fiscal year.

ARTICLE 2. COLLECTION AND ENFORCEMENT (1535 – 1541)

1535.
(a) Any fee subject to this chapter that is required in connection with the filing of an application, registration, request, statement, or proof of claim, other than an annual fee required after the period covered by the initial filing fee, shall be paid to the board.
(b) If a fee established under subdivision (b) of Section 1525, Section 1528, or Section 13160.1 is not paid when due, the board may cancel the application, registration, petition, request, statement, or claim, or may refer the matter to the State Board of Equalization for collection of the unpaid fee.

ARTICLE 3. WATER RIGHTS FUND (1550 – 1552)

1552.
Except as provided in subdivision (e) of Section 1058.5, moneys in the Water Rights Fund are available for expenditure, upon appropriation by the Legislature, for the following purposes:
(a) For expenditure by the State Board of Equalization in the administration of this chapter and the Fee Collection Procedures Law (Part 30 (commencing with Section 55001) of Division 2 of the Revenue and Taxation Code) in connection with any fee or expense subject to this chapter.
(b) For the payment of refunds, pursuant to Part 30 (commencing with Section 55001) of Division 2 of the Revenue and Taxation Code, of fees or expenses collected pursuant to this chapter.
(c) For expenditure by the board for the purposes of carrying out this division, Division 1 (commencing with Section 100), Part 2 (commencing with Section 10500) and Chapter 11 (commencing with Section 10735) of Division 6, Article 7 (commencing with Section 13550) of Chapter 7 of Division 7, and the water diversion related provisions of Article 6 (commencing with Section 19331) of Chapter 3.5 of Division 8 of the Business and Professions Code.
(d) For expenditures by the board for the purposes of carrying out Sections 13160 and 13160.1 in connection with activities involving hydroelectric power projects subject to licensing by the Federal Energy Regulatory Commission.
(e) For expenditures by the board for the purposes of carrying out Sections 13140 and 13170 in connection with plans and policies that address the diversion or use of water.

CHAPTER 12. ENFORCEMENT OF WATER RIGHTS

ARTICLE 2. CEASE AND DESIST ORDERS (1831 – 1836)

1831.
(a) When the board determines that any person is violating, or threatening to violate, any requirement described in subdivision (d), the board may issue an order to that person to cease and desist from that violation.
(b) The cease and desist order shall require that person to comply forthwith or in accordance with a time schedule set by the board.
(c) The board may issue a cease and desist order only after notice and an opportunity for hearing pursuant to Section 1834.
(d) The board may issue a cease and desist order in response to a violation or threatened violation of any of the following:
(1) The prohibition set forth in Section 1052 against the unauthorized diversion or use of water subject to this division.
(2) Any term or condition of a permit, license, certification, or registration issued under this division.
(3) Any decision or order of the board issued under this part, Section 275, Chapter 11 (commencing with Section 10735) of Part 2.74 of Division 6, or Article 7 (commencing with Section 13550) of Chapter 7 of Division 7, in which decision or order the person to whom the cease and desist order will be issued, or a predecessor in interest to that person, was named as a party directly affected by the decision or order.
(4) A regulation adopted under Section 1058.5.
(5) Any extraction restriction, limitation, order, or regulation adopted or issued under Chapter 11 (commencing with Section 10735) of Part 2.74 of Division 6.

December 13, 2016; this document may not contain the most recent statute language

Page 47
Comp
rehensive
Medical Cannabis Regulation and Safety Act- 2016
Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

(6) Any diversion or use of water for cannabis cultivation if any of the following applies:
   (A) A license is required, but has not been obtained, under Article 6 (commencing with Section 19331) of Chapter 3.5 of Division 8 of the Business and Professions Code.
   (B) The diversion is not in compliance with an applicable limitation or requirement established by the board or the Department of Fish and Wildlife under Section 13149.
   (C) The diversion or use is not in compliance with a requirement imposed under subdivision (d) or (e) of Section 19332.2 of the Business and Professions Code.

(e) This article does not alter the regulatory authority of the board under other provisions of law.

ARTICLE 3. MONITORING AND REPORTING (1840 - 1841)
1840.
(a) Except as provided in subdivision (b), a person who, on or after January 1, 2016, diverts 10 acre-feet of water per year or more under a permit or license shall install and maintain a device or employ a method capable of measuring the rate of direct diversion, rate of collection to storage, and rate of withdrawal or release from storage. The measurements shall be made using the best available technologies and best professional practices, as defined in Section 5100, using a device or methods satisfactory to the board, as follows:
   (A) A device shall be capable of continuous monitoring of the rate and quantity of water diverted and shall be properly maintained. The permittee or licensee shall provide the board with evidence that the device has been installed with the first report submitted after installation of the device. The permittee or licensee shall provide the board with evidence demonstrating that the device is functioning properly as part of the reports submitted at five-year intervals after the report documenting installation of the device, or upon request of the board.
   (B) In developing regulations pursuant to Section 1841, the board shall consider devices and methods that provide accurate measurement of the total amount diverted and the rate of diversion. The board shall consider devices and methods that provide accurate measurements within an acceptable range of error, including the following:
      (i) Electricity records dedicated to a pump and recent pump test.
      (ii) Staff gage calibrated with an acceptable streamflow rating curve.
      (iii) Staff gage calibrated for a flume or weir.
      (iv) Staff gage calibrated with an acceptable storage capacity curve.
      (v) Pressure transducer and acceptable storage capacity curve.

(b) The permittee or licensee shall maintain a record of all diversion monitoring that includes the date, time, and diversion rate at time intervals of one hour or less, and the total amount of water diverted. These records shall be included with reports submitted under the permit or license, as required under subdivision (c), or upon request of the board.

(1) The board may modify the requirements of subdivision (a) upon finding either of the following:
   (A) That strict compliance is infeasible, is unreasonably expensive, would unreasonably affect public trust uses, or would result in the waste or unreasonable use of water.
   (B) That the need for monitoring and reporting is adequately addressed by other conditions of the permit or license.

(2) The board may increase the 10-acre-foot reporting threshold of subdivision (a) in a watershed or subwatershed, after considering the diversion reporting threshold in relation to quantity of water within the watershed or subwatershed. The board may increase the 10-acre-foot reporting threshold to 25 acre-feet or above if it finds that the benefits of the additional information within the watershed or subwatershed are substantially outweighed by the cost of installing measuring devices or employing methods for measurement for diversions at the 10-acre-foot threshold.

(c) At least annually, a person who diverts water under a registration, permit, or license shall report to the board the following information:
   (1) The quantity of water diverted by month.
   (2) The maximum rate of diversion by months in the preceding calendar year.
   (3) The information required by subdivision (a), if applicable.
   (4) The amount of water used, if any, for cannabis cultivation.

(d) Compliance with the applicable requirements of this section is a condition of every registration, permit, or license.

ARTICLE 4. ENFORCEMENT (1845 - 1848)
1845.
(a) Upon the failure of any person to comply with a cease and desist order issued by the board pursuant to this chapter, the Attorney General, upon the request of the board, shall petition the superior court for the issuance of prohibitory or

December 13, 2016; this document may not contain the most recent statute language
Page 48
Comprehensive
Medical Cannabis Regulation and Safety Act- 2016

Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

mandatory injunctive relief as appropriate, including a temporary restraining order, preliminary injunction, or permanent injunction.

(b)
(1) A person or entity who violates a cease and desist order issued pursuant to this chapter may be liable in an amount not to exceed the following:
(A) If the violation occurs in a critically dry year immediately preceded by two or more consecutive below normal, dry, or critically dry years or during a period for which the Governor has issued a proclamation of a state of emergency under the California Emergency Services Act (Chapter 7 (commencing with Section 8550) of Division 1 of Title 2 of the Government Code) based on drought conditions, ten thousand dollars ($10,000) for each day in which the violation occurs.
(B) If the violation is not described by subparagraph (A), one thousand dollars ($1,000) for each day in which the violation occurs.
(2) Civil liability may be imposed by the superior court. The Attorney General, upon the request of the board, shall petition the superior court to impose, assess, and recover those sums.
(3) Civil liability may be imposed administratively by the board pursuant to Section 1055.

1846.
(a) A person or entity may be liable for a violation of any of the following in an amount not to exceed five hundred dollars ($500) for each day in which the violation occurs:
(1) A term or condition of a permit, license, certificate, or registration issued under this division.
(b) Civil liability may be imposed by the superior court. The Attorney General, upon the request of the board, shall petition the superior court to impose, assess, and recover those sums.
(c) Civil liability may be imposed administratively by the board pursuant to Section 1055.

1847.
(a) A person or entity may be liable for a violation of any of the requirements of subdivision (b) in an amount not to exceed the sum of the following:
(1) Five hundred dollars ($500), plus two hundred fifty dollars ($250) for each additional day on which the violation continues if the person fails to correct the violation within 30 days after the board has called the violation to the attention of that person.
(2) Two thousand five hundred dollars ($2,500) for each acre-foot of water diverted or used in violation of the applicable requirement.
(b) Liability may be imposed for any of the following violations:
(1) Violation of a limitation or requirement established by the board or the Department of Fish and Wildlife under Section 13149.
(2) Failure to submit information, or making a material misstatement in information submitted, under subdivision (a), (b), or (c) of Section 19332.2 of the Business and Professions Code.
(3) Violation of any requirement imposed under subdivision (e) of Section 19332.2 of the Business and Professions Code.
(4) Diversion or use of water for cannabis cultivation for which a license is required, but has not been obtained, under Article 6 (commencing with Section 19331) of Chapter 3.5 of Division 8 of the Business and Professions Code.
(c) Civil liability may be imposed by the superior court. The Attorney General, upon the request of the board, shall petition the superior court to impose, assess, and recover those sums.
(d) Civil liability may be imposed administratively by the board pursuant to Section 1055.

1848.
(a) Except as provided in subdivisions (b) and (c), remedies under this chapter are in addition to, and do not supersede or limit, any other remedy, civil or criminal.
(b) Civil liability shall not be imposed both administratively and by the superior court for the same violation.
(c) No liability shall be recoverable under Section 1846 or 1847 for a violation for which liability is recovered under Section 1852.
(d) In determining the appropriate amount, the court, or the board, as the case may be, shall take into consideration all relevant circumstances, including, but not limited to, the extent of harm caused by the violation, the nature and persistence of the violation, the length of time over which the violation occurs, and the corrective action, if any, taken by the violator.
(e) All funds recovered pursuant to this article shall be deposited in the Water Rights Fund established pursuant to Section 1550.

### DIVISION 2 PART 5.1. STATEMENTS OF WATER DIVERSIONS AND USE (5100 -5107)

5103.
Each statement shall be prepared on a form provided by the board. The statement shall include all of the following information:

(a) The name and address of the person who diverted water and of the person filing the statement.

(b) The name of the stream or other source from which water was diverted, and the name of the next major stream or other body of water to which the source is tributary.

(c) The place of diversion. The location of the diversion works shall be depicted on a specific United States Geological Survey topographic map, or shall be identified using the California Coordinate System, or latitude and longitude measurements. If assigned, the public land description to the nearest 40-acre subdivision and the assessor’s parcel number shall also be provided.

(d) The capacity of the diversion works and of the storage reservoir, if any, and the months in which water was used during the preceding calendar year.

(e)

(1)

(A) At least monthly records of water diversions. The measurements of the diversion shall be made in accordance with Section 1840.

(B) On and after July 1, 2016, the measurement of a diversion of 10 acre-feet or more per year shall comply with regulations adopted by the board pursuant to Article 3 (commencing with Section 1840) of Chapter 12 of Part 2.

(i) The requirement of clause (i) is extended to January 1, 2017, for any statement filer that enters into a voluntary agreement that is acceptable to the board to reduce the statement filer’s diversions during the 2015 irrigation season.

(C) It is the intent of the Legislature that the requirements of this subdivision shall complement and not affect the scope of authority granted to the board by provisions of law other than this article.

(f)

(1) The purpose of use.

(2) The amount of water used, if any, for cannabis cultivation.

(g) A general description of the area in which the water was used. The location of the place of use shall be depicted on a specific United States Geological Survey topographic map and on any other maps with identifiable landmarks. If assigned, the public land description to the nearest 40-acre subdivision and the assessor’s parcel number shall also be provided.

(h) The year in which the diversion was commenced as near as is known.

13149.

(a)

(1)

(A) The board, in consultation with the Department of Fish and Wildlife, shall adopt principles and guidelines for diversion and use of water for cannabis cultivation in areas where cannabis cultivation may have the potential to substantially affect instream flows. The principles and guidelines adopted under this section may include, but are not limited to, instream flow objectives, limits on diversions, and requirements for screening of diversions and elimination of barriers to fish passage. The principles and guidelines may include requirements that apply to groundwater extractions where the board determines those requirements are reasonably necessary for purposes of this section.

December 13, 2016; this document may not contain the most recent statute language
Comprehensive
Medical Cannabis Regulation and Safety Act- 2016

Includes 2015 bills SB 643, AB 266, AB 243 and 2016 bills SB 837, AB 21, AB 2516 and AB 2679

(B) Prior to adopting principles and guidelines under this section, the board shall allow for public comment and hearing, pursuant to Section 13147. The board shall provide an opportunity for the public to review and comment on the proposal for at least 60 days and shall consider the public comments before adopting the principles and guidelines.

(2) The board, in consultation with the Department of Fish and Wildlife, shall adopt principles and guidelines pending the development of long-term principles and guidelines under paragraph (1). The principles and guidelines, including the interim principles and guidelines, shall include measures to protect springs, wetlands, and aquatic habitats from negative impacts of cannabis cultivation. The board may update the interim principles and guidelines as it determines to be reasonably necessary for purposes of this section.

(3) The Department of Fish and Wildlife, in consultation with the board, may establish interim requirements to protect fish and wildlife from the impacts of diversions for cannabis cultivation pending the adoption of long-term principles and guidelines by the board under paragraph (1). The requirements may also include measures to protect springs, wetlands, and aquatic habitats from negative impacts of cannabis cultivation.

(b)

(1) Notwithstanding Section 15300.2 of Title 14 of the California Code of Regulations, actions of the board and the Department of Fish and Wildlife under this section shall be deemed to be within Section 15308 of Title 14 of the California Code of regulations, provided that those actions do not involve relaxation of existing streamflow standards.

(2) The board shall adopt principles and guidelines under this section as part of state policy for water quality control adopted pursuant to Article 3 (commencing with Section 13140) of Chapter 3 of Division 7.

(3) If the Department of Fish and Wildlife establishes interim requirements under this section, it shall do so as emergency regulations in accordance with Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code. The adoption of those interim requirements is an emergency and shall be considered by the Office of Administrative Law as necessary for the immediate preservation of the public peace, health, safety, and general welfare. Notwithstanding Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code, the emergency regulations shall remain in effect until revised by the Department of Fish and Wildlife, provided that the emergency regulations shall not apply after long-term principles and guidelines adopted by the board under this section take effect for the stream or other body of water where the diversion is located.

(4) A diversion for cannabis cultivation is subject to both the interim principles and guidelines and the interim requirements in the period before final principles and guidelines are adopted by the board.

(5) The board shall have primary enforcement responsibility for principles and guidelines adopted under this section, and shall notify the Department of Food and Agriculture of any enforcement action taken.

This statute has been replaced with the Medicinal and Adult-Use Regulation and Safety Act (included in this PEIR as Appendix H), but is presented here for informational purposes.
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Appendix C

Adult Use of Marijuana Act -2016
SECTION 1. TITLE.

This statute has been replaced with the Medicinal and Adult-Use Regulation and Safety Act (included in this PEIR as Appendix H), but is presented here for informational purposes.

SECTION 2. FINDINGS AND DECLARATIONS.

(A) Currently, marijuana use is unregulated, untaxed, and occurs without any consumer or environmental protections. The Control, Regulate and Tax Adult Use of Marijuana Act will legalize marijuana for those over 21 years old, protect children, and establish laws to regulate marijuana cultivation, distribution, sale and use, and will protect Californians and the environment from potential dangers. It establishes the Bureau of Marijuana Control within the Department of Consumer Affairs to regulate and license the marijuana industry.

(B) Marijuana is currently legal in our state for medical use and illegal for nonmedical use. Abuse of the medical marijuana system in California has long been widespread, but recent bipartisan legislation signed by Governor Jerry Brown is establishing a comprehensive regulatory scheme for medical marijuana. The Control, Regulate and Tax Adult Use of Marijuana Act (hereafter called the Adult Use of Marijuana Act) will consolidate and streamline regulation and taxation for both nonmedical and medical marijuana.

(C) Currently, marijuana growth and sale is not being taxed by the State of California, which means our state is missing out on hundreds of millions of dollars in potential tax revenue every year. The Adult Use of Marijuana Act will tax both the growth and sale of marijuana to generate hundreds of millions of dollars annually. The revenues will cover the cost of administering the new law and will provide funds to: invest in public health programs that educate youth to prevent and treat serious substance abuse; train local law enforcement to enforce the new law with a focus on DUI enforcement; invest in communities to reduce the illicit market and create job opportunities; and provide for environmental cleanup and restoration of public lands damaged by illegal marijuana cultivation.

(D) Currently, children under the age of 18 can just as easily purchase marijuana on the black market as adults can. By legalizing marijuana, the Adult Use of Marijuana Act will incapacitate the black market, and move marijuana purchases into a legal structure with strict safeguards against children accessing it. The Adult Use of Marijuana Act prohibits the sale of nonmedical marijuana to those under 21 years old, and provides new resources to educate youth against drug abuse and train local law enforcement to enforce the new law. It bars marijuana businesses from being located within 600 feet of schools and other areas where children congregate. It establishes mandatory and strict packaging and labeling requirements for marijuana and marijuana products. And it mandates that marijuana and marijuana products cannot be advertised or marketed towards children.

(E) There are currently no laws governing adult use marijuana businesses to ensure that they operate in accordance with existing California laws. Adult use of marijuana may only be accessed from the unregulated illicit market. The Adult Use of Marijuana Act sets up a
comprehensive system governing marijuana businesses at the state level and safeguards local control, allowing local governments to regulate marijuana-related activities, to subject marijuana businesses to zoning and permitting requirements, and to ban marijuana businesses by a vote of the people within a locality.

(F) Currently, illegal marijuana growers steal or divert millions of gallons of water without any accountability. The Adult Use of Marijuana Act will create strict environmental regulations to ensure that the marijuana is grown efficiently and legally, to regulate the use of pesticides, to prevent wasting water, and to minimize water usage. The Adult Use of Marijuana Act will crack down on the illegal use of water and punish bad actors, while providing funds to restore lands that have been damaged by illegal marijuana grows. If a business does not demonstrate they are in full compliance with the applicable water usage and environmental laws, they will have their license revoked.

(G) Currently, the courts are clogged with cases of non-violent drug offenses. By legalizing marijuana, the Adult Use of Marijuana Act will alleviate pressure on the courts, but continue to allow prosecutors to charge the most serious marijuana-related offenses as felonies, while reducing the penalties for minor marijuana-related offenses as set forth in the act.

(H) By bringing marijuana into a regulated and legitimate market, the Adult Use of Marijuana Act creates a transparent and accountable system. This will help police crack down on the underground black market that currently benefits violent drug cartels and transnational gangs, which are making billions from marijuana trafficking and jeopardizing public safety.

(I) The Adult Use of Marijuana Act creates a comprehensive regulatory structure in which every marijuana business is overseen by a specialized agency with relevant expertise. The Bureau of Marijuana Control, housed in the Department of Consumer Affairs, will oversee the whole system and ensure a smooth transition to the legal market, with licenses issued beginning in 2018. The Department of Consumer Affairs will also license and oversee marijuana retailers, distributors, and microbusinesses. The Department of Food and Agriculture will license and oversee marijuana cultivation, ensuring it is environmentally safe. The Department of Public Health will license and oversee manufacturing and testing, ensuring consumers receive a safe product. The State Board of Equalization will collect special marijuana taxes, and the Controller will allocate the revenue to administer the new law and provide the funds to critical investments.

(J) The Adult Use of Marijuana Act ensures the nonmedical marijuana industry will be built around small and medium businesses by prohibiting large-scale cultivation licenses for the first five years. The Adult Use of Marijuana Act also protects consumers and small businesses that participate in the nonmedical marijuana industry.

SECTION 3. PURPOSE AND INTENT.

The purpose of the Adult Use of Marijuana Act is to establish a comprehensive system to legalize, control and regulate the cultivation, processing, manufacture, distribution, testing, and sale of nonmedical marijuana, including marijuana products, for use by adults 21 years and older, and to
tax the commercial growth and retail sale of marijuana. It is the intent of the People in enacting this Act to accomplish the following:
(a) Take nonmedical marijuana production and sales out of the hands of the illegal market and bring them under a regulatory structure that prevents access by minors and protects public safety, public health, and the environment.
(b) Strictly control the cultivation, processing, manufacture, distribution, testing and sale of nonmedical marijuana through a system of state licensing, regulation, and enforcement.
(c) Allow local governments to enforce state laws and regulations for nonmedical marijuana businesses and enact additional local requirements for nonmedical marijuana businesses, but not require that they do so for a nonmedical marijuana business to be issued a state license and be legal under state law.
(d) Allow local governments to ban nonmedical marijuana businesses as set forth in this act.
(e) Require track and trace management procedures to track nonmedical marijuana from cultivation to sale.
(f) Require nonmedical marijuana to be comprehensively tested by independent testing services for the presence of contaminants, including mold and pesticides, before it can be sold by licensed businesses.
(g) Require nonmedical marijuana sold by licensed businesses to be packaged in child-resistant containers and be labeled so that consumers are fully informed about potency and the effects of ingesting nonmedical marijuana.
(h) Require licensed nonmedical marijuana businesses to follow strict environmental and product safety standards as a condition of maintaining their license.
(i) Prohibit the sale of nonmedical marijuana by businesses that also sell alcohol or tobacco.
(j) Prohibit the marketing and advertising of nonmedical marijuana to persons younger than 21 years old or near schools or other places where children are present.
(k) Strengthen the state's existing medical marijuana system by requiring patients to obtain by January 1, 2018, a new recommendation from their physician that meets the strict standards signed into law by the Governor in 2015, and by providing new privacy protections for patients who obtain medical marijuana identification cards as set forth in this act.
(l) Permit adults 21 years and older to use, possess, purchase and grow nonmedical marijuana within defined limits for use by adults 21 years and older as set forth in this act.
(m) Allow local governments to reasonably regulate the cultivation of nonmedical marijuana for personal use by adults 21 years and older through zoning and other local laws, and only to ban outdoor cultivation as set forth in this act.
(n) Deny access to marijuana by persons younger than 21 years old who are not medical marijuana patients.
(o) Prohibit the consumption of marijuana in a public place unlicensed for such use, including near K-12 schools and other areas where children are present.
(p) Maintain existing laws making it unlawful to operate a car or other vehicle used for transportation while impaired by marijuana.
(q) Prohibit the cultivation of marijuana on public lands or while trespassing on private lands.
This statute has been replaced with the Medicinal and Adult-Use Regulation and Safety Act (included in this PEIR as Appendix H), but is presented here for informational purposes.

Comprehensive
Adult Use of Marijuana Act – 2016
Proposition 64

(r) Allow public and private employers to enact and enforce workplace policies pertaining to marijuana.
(s) Tax the growth and sale of marijuana in a way that drives out the illicit market for marijuana and discourages use by minors, and abuse by adults.
(t) Generate hundreds of millions of dollars in new state revenue annually for restoring and repairing the environment, youth treatment and prevention, community investment, and law enforcement.
(u) Prevent illegal production or distribution of marijuana.
(v) Prevent the illegal diversion of marijuana from California to other states or countries or to the illegal market.
(w) Preserve scarce law enforcement resources to prevent and prosecute violent crime.
(x) Reduce barriers to entry into the legal, regulated market.
(y) Require minors who commit marijuana-related offenses to complete drug prevention education or counseling and community service.
(z) Authorize courts to resentence persons who are currently serving a sentence for offenses for which the penalty is reduced by the act, so long as the person does not pose a risk to public safety, and to redesignate or dismiss such offenses from the criminal records of persons who have completed their sentences as set forth in this act.
(aa) Allow industrial hemp to be grown as an agricultural product, and for agricultural or academic research, and regulated separately from the strains of cannabis with higher delta-9 tetrahydrocannabinol concentrations.

SECTION 4. PERSONAL USE.
Section 4.1 Section 11018 of the Health and Safety Code Amended to read:

11018. Marijuana
“Marijuana" means all parts of the plant Cannabis sativa L., whether growing or not; the seeds thereof; the resin extracted from any part of the plant; and every compound, manufacture, salt, derivative, mixture, or preparation of the plant, its seeds or resin. It does not include:
(a) Industrial hemp, as defined in Section 11018.5; or
(b) The weight of any other ingredient combined with marijuana to prepare topical or oral administrations, food, drink, or other product.

SECTION 4.2
Section 1108.1 is added to the Health and Safety Code, to read:

11018.1. Marijuana Products
“Marijuana products" means marijuana that has undergone a process whereby the plant material has been transformed into a concentrate, including, but not limited to, concentrated cannabis, or an edible or topical product containing marijuana or concentrated cannabis and other ingredients.

Revised 03/06/2017
This document is a summary of statute, may not contain the most recent statutory language, and is not intended to serve as a legal document.
Page 4
SECTION 4.3.
Section 11018.2 is added to the Health and Safety Code, to read:

110818.2. Marijuana Accessories
"Marijuana accessories” means any equipment, products or materials of any kind which are used, intended for use, or designed for use in planting, propagating, cultivating, growing, harvesting, manufacturing, compounding, converting, producing, processing, preparing, testing, analyzing, packaging, repackaging, storing, smoking, vaporizing, or containing marijuana, or for ingesting, inhaling, or otherwise introducing marijuana or marijuana products into the human body.

SECTION 4.4.
Section 11362.1 is added to the Health and Safety Code to read:

11362.1. (a) Subject to Sections 11362.2, 11362.3, 11362.4, and 11362.45, but notwithstanding any other provision of law, it shall be lawful under state and local law, and shall not be a violation of state or local law, for persons 21 years of age or older to:
(1) Possess, process, transport, purchase, obtain, or give away to persons 21 years of age or older without any compensation whatsoever, not more than 28.5 grams of marijuana not in the form of concentrated cannabis;
(2) Possess, process, transport, purchase, obtain, or give away to persons 21 years of age or older without any compensation whatsoever, not more than eight grams of marijuana in the form of concentrated cannabis, including as contained in marijuana products;
(3) Possess, plant, cultivate, harvest, dry, or process not more than six living marijuana plants and possess the marijuana produced by the plants;
(4) Smoke or ingest marijuana or marijuana products; and
(5) Possess, transport, purchase, obtain, use, manufacture, or give away marijuana accessories to persons 21 years of age or older without any compensation whatsoever.
(b) Paragraph (5) of subdivision (a) is intended to meet the requirements of subdivision (f) of Section 863 of Title 21 of the United States Code (21 US.C. § 863(f)) by authorizing, under state law, any person in compliance with this section to manufacture, possess, or distribute marijuana accessories.
(c) Marijuana and marijuana products involved in any way with conduct deemed lawful by this section are not contraband nor subject to seizure, and no conduct deemed lawful by this section shall constitute the basis for detention, search, or arrest.
SECTION 4.5.
Section 11362.2 is added to Health and Safety Code, to read:

11362.2
(a) Personal cultivation of marijuana under paragraph (3) of subdivision (a) of Section 11362.1 is subject to the following restrictions:
(1) A person shall plant, cultivate, harvest, dry, or process plants in accordance with local ordinances, if any, adopted in accordance with subdivision (b).
(2) The living plants and any marijuana produced by the plants in excess of 28.5 grams are kept within the person's private residence, or upon the grounds of that private residence (e.g., in an outdoor garden area), are in a locked space, and are not visible by normal unaided vision from a public place.
(3) Not more than six living plants may be planted, cultivated, harvested, dried, or processed within a single private residence, or upon the grounds of that private residence, at one time.

(b) A city, county, or city and county may enact and enforce reasonable regulations to reasonably regulate the actions and conduct in paragraph (3) of subdivision (a) of Section 11362.1 inside a private residence or inside an accessory structure to a private residence located upon the grounds of a private residence that is fully enclosed and secure.
(3) Notwithstanding paragraph (3) of subdivision (a) of Section 11362.1, a city, county, or city and county may completely prohibit persons engaging in actions and conduct under paragraph (3) of subdivision (a) of Section 11362.1 outdoors upon the grounds of a private residence.
(4) Paragraph (3) of this subdivision shall become inoperative upon a determination by the California Attorney General that nonmedical use of marijuana is lawful in the State of California under federal law, and an act taken by a city, county, or city and county under paragraph (3) shall be deemed repealed upon the date of such determination by the California Attorney General.
(5) For purposes of this section, “private residence” means a house, an apartment unit, a mobile home, or other similar dwelling.

SECTION 4.6.
Section 11362.3 is added to Health and Safety to read:

11362.3
(a) Nothing in Section 11362.1 shall be construed to permit any person to:
(1) Smoke or ingest marijuana or marijuana products in any public place, except in accordance with Section 26200 of the Business and Professions Code.
(2) Smoke marijuana or marijuana products in a location where smoking tobacco is prohibited.

(3) Smoke marijuana or marijuana products within 1,000 feet of a school, day care center, or youth center while children are present at such a school, day care center, or youth center, except in or upon the grounds of a private residence or in accordance with Section 26200 of the Business and Professions Code or Chapter 3.5 (commencing with Section 19300) of Division 8 of the Business and Professions Code and only if such smoking is not detectable by others on the grounds of such a school, day care center, or youth center while children are present.

(4) Possess an open container or open package of marijuana or marijuana products while driving, operating, or riding in the passenger seat or compartment of a motor vehicle, boat, vessel, aircraft, or other vehicle used for transportation.

(5) Possess, smoke or ingest marijuana or marijuana products in or upon the grounds of a school, day care center, or youth center while children are present.

(6) Manufacture concentrated cannabis using a volatile solvent, unless done in accordance with a license under Chapter 3.5 of Division 8 or Division 10 of the Business and Professions Code.

(7) Smoke or ingest marijuana or marijuana products while driving, operating a motor vehicle, boat, vessel, aircraft, or other vehicle used for transportation.

(8) Smoke or ingest marijuana or marijuana products while riding in the passenger seat or compartment of a motor vehicle, boat, vessel, aircraft, or other vehicle used for transportation except as permitted on a motor vehicle, boat, vessel, aircraft, or other vehicle used for transportation that is operated in accordance with Section 26200 of the Business and Professions Code and while no persons under the age of 21 years are present.

(b) For purposes of this section, “day care center” has the same meaning as in Section 1596.76.

(c) For purposes of this section, “smoke” means to inhale, exhale, burn, or carry any lighted or heated device or pipe, or any other lighted or heated marijuana or marijuana product intended for inhalation, whether natural or synthetic, in any manner or in any form. "Smoke" includes the use of an electronic smoking device that creates an aerosol or vapor, in any manner or in any form, or the use of any oral smoking device for the purpose of circumventing the prohibition of smoking in a place.

(d) For purposes of this section, "volatile solvent" means volatile organic compounds, including:

(1) explosive gases, such as Butane, Propane, Xylene, Styrene, Gasoline, Kerosene, O₂ or H₂; and

(2) dangerous poisons, toxins, or carcinogens, such as Methanol, Is-propyl Alcohol, Methylene Chloride, Acetone, Benzene, Toluene, and Tri-chloro-ethylene.

(e) For purposes of this section, "youth center" has the same meaning as in Section 11353.1.

(f) Nothing in this section shall be construed or interpreted to amend, repeal, affect, restrict, or preempt laws pertaining to the Compassionate Use Act of 1996.
SECTION 4.7.
Section 11362.4 is added to the Health and Safety Code, to read:

11362.4
(a) A person who engages in the conduct described in paragraph (1) of subdivision (a) of Section 11362.3 is guilty of an infraction punishable by no more than a one hundred dollar ($100) fine; provided, however, that persons under the age of 18 shall instead be required to complete four hours of a drug education program or counseling, and up to 10 hours of community service, over a period not to exceed 60 days once the drug education program or counseling and community service opportunity are made available to the person.
(b) A person who engages in the conduct described in paragraphs (2) through (4) of subdivision (a) of Section 11362.3 shall be guilty of an infraction punishable by no more than a two hundred and fifty dollar ($250) fine, unless such activity is otherwise permitted by state and local law; provided, however, that persons under the age of 18 shall instead be required to complete four hours of drug education or counseling, and up to 20 hours of community service, over a period not to exceed 90 days once the drug education program or counseling and community service opportunity are made available to the person.
(c) A person who engages in the conduct described in paragraph (5) of subdivision (a) of Section 11362.3 shall be subject to the same punishment as provided under subdivision (c) or (d) of Section 11357.
(d) A person who engages in the conduct described in paragraph (6) of subdivision (a) of Section 11362.3 shall be subject to punishment under Section 11379.6.
(e) A person who violates the restrictions in subdivision (a) of Section 11362.2 is guilty of an infraction punishable by no more than a two hundred and fifty dollar ($250) fine.
(f) Notwithstanding subdivision (e), a person under the age of 18 who violates the restrictions in subdivision (a) of Section 11362.2 shall be punished under subdivision (a) of Section 11358.
(g) (1) The drug education program or counseling hours required by this section shall be mandatory unless the court makes a finding that such a program or counseling is unnecessary for the person or that a drug education program or counseling is unavailable.
(2) The drug education program required by this section for persons under the age of 18 must be free to participants and provide at least four hours of group discussion or instruction based on science and evidence-based principles and practices specific to the use and abuse of marijuana and other controlled substances.
(h) Upon a finding of good cause, the court may extend the time for a person to complete the drug education or counseling, and community service required under this section.
 mẫu văn bản này có thể đọc tự nhiên là:

**SECTION 4.8.**

Section 11362.45 is added to the Health and Safety Code, to read:

11362.45.
Nothing in Section 11362.1 shall be construed or interpreted to amend, repeal, affect, restrict, or preempt:

(a) Laws making it unlawful to drive or operate a vehicle, boat, vessel, or aircraft, while smoking, ingesting, or impaired by, marijuana or marijuana products, including, but not limited to, subdivision (e) of Section 23152 of the Vehicle Code, or the penalties prescribed for violating those laws.

(b) Laws prohibiting the sale, administering, furnishing, or giving away of marijuana, marijuana products, or marijuana accessories, or the offering to sell, administer, furnish, or give away marijuana, marijuana products, or marijuana accessories to a person younger than 21 years of age.

(c) Laws prohibiting a person younger than 21 years of age from engaging in any of the actions or conduct otherwise permitted under Section 11362.1.

(d) Laws pertaining to smoking or ingesting marijuana or marijuana products on the grounds of, or within, any facility or institution under the jurisdiction of the Department of Corrections and Rehabilitation or the Division of Juvenile Justice, or on the grounds of, or within, any other facility or institution referenced in Section 4573 of the Penal Code.

(e) Laws providing that it would constitute negligence or professional malpractice to undertake any task while impaired from smoking or ingesting marijuana or marijuana products.

(f) The rights and obligations of public and private employers to maintain a drug and alcohol free workplace or require an employer to permit or accommodate the use, consumption, possession, transfer, display, transportation, sale, or growth of marijuana in the workplace, or affect the ability of employers to have policies prohibiting the use of marijuana by employees and prospective employees, or prevent employers from complying with state or federal law.

(g) The ability of a state or local government agency to prohibit or restrict any of the actions or conduct otherwise permitted under Section 11362.1 within a building owned, leased, or occupied by the state or local government agency.

(h) The ability of an individual or private entity to prohibit or restrict any of the actions or conduct otherwise permitted under Section 11362.1 on the individual's or entities privately owned property.

(i) Laws pertaining to the Compassionate Use Act of 1996.

**SECTION 5. USE OF MARIJUANA FOR MEDICAL PURPOSES.**

SECTION 5.1 Section 11362.712 is added to the Health and Safety Code, to read:

11362.712.
(a) Commencing on January 1, 2018, a qualified patient must possess a physician's recommendation that complies with Article 25 (commencing with Section 2525) of
Chapter 5 of Division 2 of the Business and Professions Code. Failure to comply with this requirement shall not, however, affect any of the protections provided to patients or their primary caregivers by Section 11362.5.

(b) A county health department or the county’s designee shall develop protocols to ensure that, commencing upon January 1, 2018, all identification cards issued pursuant to Section 11362. 71 are supported by a physician’s recommendation that complies with Article 25 (commencing with Section 2525) of Chapter 5 of Division 2 of the Business and Professions Code.

SECTION 5.2.
Section 11362.713 is added to the Health and Safety Code, to read:

11362.713.
(a) Information identifying the names, addresses, or social security numbers of patients, their medical conditions, or the names of their primary caregivers, received and contained in the records of the Department of Public Health and by any county public health department are hereby deemed "medical information" within the meaning of the Confidentiality of Medical Information Act (Part 2.6 (commencing with Section 56) Division 1 of the Civil Code) and shall not be disclosed by the Department or by any county public health department except in accordance with the restrictions on disclosure of individually identifiable information under the Confidentiality of Medical Information Act.

(b) Within 24 hours of receiving any request to disclose the name, address, or social security number of a patient, their medical condition, or the name of their primary caregiver, the Department of Public Health or any county public health agency shall contact the patient and inform the patient of the request and if the request was made in writing, a copy of the request.

(c) Notwithstanding Section 56.10 of the Civil Code, neither the Department of Public Health, nor any county public health agency, shall disclose, nor shall they be ordered by agency or court to disclose, the names, addresses, or social security numbers of patients, their medical conditions, or the names of their primary caregivers, sooner than the 10th day after which the patient whose records are sought to be disclosed has been contacted.

(d) No identification card application system or database used or maintained by the Department of Public Health or by any county department of public health or the county’s designee as provided in Section 11362.71 shall contain any personal information of any qualified patient, including but not limited to, the patient's name, address, social security number, medical conditions, or the names of their primary caregivers. Such an application system or database may only contain a unique user identification number, and when that number is entered, the only information that may be provided is whether the card is valid or invalid.
SECTION 5.3.
Section 11362.755 of Health and Safety Code is amended to read:

11362.755
(a) Each county health department or the county's designee may charge a fee for all costs incurred by the county or the county's designee for administering the program pursuant to this article.
(b) In no event shall the amount of the fee charged by a county health department exceed one hundred dollars ($100) per application or renewal.
(c) Upon satisfactory proof of participation and eligibility in the Medi-Cal program, a Medi-Cal beneficiary shall receive a 50 percent reduction in the fees established pursuant to this section.
(d) Upon satisfactory proof that a qualified patient, or the legal guardian of a qualified patient under the age of 18, is a medically indigent adult who is eligible for and participates in the County Medical Services Program, the fee established pursuant to this section shall be waived.
(e) In the event the fees charged and collected by a county health department are not sufficient to pay for the administrative costs incurred in discharging the county health department's duties with respect to the mandatory identification card system, the Legislature, upon request by the county health department, shall reimburse the county health department for those reasonable administrative costs in excess of the fees charged and collected by the county health department.

SECTION 5.4.
Section 11362.84 is added to the Health and Safety Code, to read:

11362.84.
The status and conduct of a qualified patient who acts in accordance with the Compassionate Use Act shall not, by itself, be used to restrict or abridge custodial or parental rights to minor children in any action or proceeding under the jurisdiction of family or juvenile court.

SECTION 5.5.
Section 11362.85 is added to the Health and Safety Code

11362.85
Upon a determination by the California Attorney General that the federal schedule of controlled substances has been amended to reclassify or decriminalize marijuana, the Legislature may amend or repeal the provisions of the Health and Safety Code, as necessary, to conform state law to such changes in federal law.
SECTION 6. MARIJUANA REGULATION AND SAFETY.

SECTION 6.1.
Division 10 (commencing with Section 26000) is added to the Business and Professions Code, to read:

DIVISION 10 MARIJUANA

Chapter 1. General Provisions and Definitions

26000.
(a) The purpose and intent of this division is to establish a comprehensive system to control and regulate the cultivation, distribution, transport, storage, manufacturing, processing, and sale of nonmedical marijuana and marijuana products for adults 21 years of age and over.
(b) In the furtherance of subdivision (a), this division expands the power and duties of the existing state agencies responsible for controlling and regulating the medical cannabis industry under Chapter 3.5 (commencing with Section 19300) of Division 8 to include the power and duty to control and regulate the commercial nonmedical marijuana industry.
(c) The Legislature may, by majority vote, enact laws to implement this division, provided such laws are consistent with the purposes and intent of the Control, Regulate and Tax Adult Use of Marijuana Act.

26001.
For purposes of this division, the following definitions shall apply:
(a) "Applicant" means the following:
   (1) The owner or owners of a proposed licensee. "Owner" mean all persons having (A) an aggregate ownership interest (other than a security interest, lien, or encumbrance) of 20 percent or more in the licensee and (B) the power to direct or cause to be directed, the management or control of the licensee.
   (2) If the applicant is a publicly traded company, "owner" includes the chief executive officer and any member of the board of directors and any person or entity with an aggregate ownership interest in the company of 20 percent or more. If the applicant is a nonprofit entity, "owner" means both the chief executive officer and any member of the board of directors.
   (b) "Bureau" means the Bureau of Marijuana Control within the Department of Consumer Affairs.
   (c) "Child resistant" means designed or constructed to be significantly difficult for children under five years of age to open, and not difficult for normal adults to use properly.
   (d) "Commercial marijuana activity" includes the cultivation, possession, manufacture, distribution, processing, storing, laboratory testing, labeling, transportation, distribution, delivery or sale of marijuana and marijuana products as provided for in this division.
   (e) "Cultivation" means any activity involving the planting, growing, harvesting, drying, curing, grading, or trimming of marijuana.

Revised 03/06/2017
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Page 12
(f) "Customer" means a natural person 21 years of age or over.
(g) "Day care center" shall have the same meaning as in Section 1596. 76 of the Health and Safety Code.
(h) "Delivery" means the commercial transfer of marijuana or marijuana products to a customer. "Delivery" also includes the use by a retailer of any technology platform owned and controlled by the retailer, or independently licensed under this division that enables customers to arrange for or facilitate the commercial transfer by a licensed retailer of marijuana or marijuana products.
(i) "Director" means the Director of the Department of Consumer Affairs
(j) "Distribution" means the procurement, sale, and transport of marijuana and marijuana products between entities licensed pursuant to this division.
(k) "Fund" means the Marijuana Control Fund established pursuant to Section 26210.
(l) "Kind" means applicable type or designation regarding a particular marijuana variant or marijuana product type, including, but not limited to, strain name or other grower trademark, or growing area designation.
(m) "License" means a state license issued under this division.
(n) "Licensee" means any person or entity holding a license under this division.
(o) "Licensing authority" means the state agency responsible for the issuance, renewal, or reinstatement of the license, or the state agency authorized to take disciplinary action against the Licensee.
(p) "Local jurisdiction" means a city, county, or city and county.
(q) "Manufacture" means to compound, blend, extract, infuse, or otherwise make or prepare a marijuana product.
(r) "Manufacturer" means a person that conducts the production, preparation, propagation, or compounding of marijuana or marijuana products either directly or indirectly or by extraction methods, or independently by means of chemical synthesis, or by a combination of extraction and chemical synthesis at a fixed location that packages or repackages marijuana or marijuana products or labels or re-labels its container, that holds a state license pursuant to this division.
(s) "Marijuana" has the same meaning as in Section 11018 of the Health and Safety Code, except that it does not include marijuana that is cultivated, processed, transported, distributed, or sold for medical purposes under Chapter 3.5 of Division 8.
(t) "Marijuana accessories" has the same meaning as in Section 11018.2 of the Health and Safety Code.
(u) "Marijuana products" has the same meaning as in Section 11018.1 of the Health and Safety Code, except that it does not include marijuana products manufactured, processed, transported, distributed, or sold for medical purposes under Chapter 3.5 of Division 8.
(v) "Nursery" means a licensee that produces only clones, immature plants, seeds, and other agricultural products used specifically for the planting, propagation, and cultivation of marijuana.
(w) "Operation" means any act for which licensure is required under the provisions of this division, or any commercial transfer of marijuana or marijuana products.
(x) "Package" means any container or receptacle used for holding marijuana or marijuana products.

(y) "Person" includes any individual, firm, co-partnership, joint venture, association, corporation, Limited Liability Company, estate, trust, business trust, receiver, syndicate, or any other group or combination acting as a unit, and the plural as well as the singular.

(z) "Purchaser" means the customer who is engaged in a transaction with a licensee for purposes of obtaining marijuana or marijuana products.

(aa) "Sell," "sale," and "to sell" include any transaction whereby, for any consideration, title to marijuana is transferred from one person to another, and includes the delivery of marijuana or marijuana products pursuant to an order placed for the purchase of the same and soliciting or receiving an order for the same, but does not include the return of marijuana or marijuana products by a licensee to the licensee from whom such marijuana or marijuana product was purchased.

(bb) "Testing service" means a laboratory, facility, or entity in the state, that offers or performs tests of marijuana or marijuana products, including the equipment provided by such laboratory, facility, or entity, and that is both of the following:

1. Accredited by an accrediting body that is independent from all other persons involved in commercial marijuana activity in the state.

2. Registered with the Department of Public Health.

(cc) "Unique identifier" means an alphanumeric code or designation used for reference to a specific plant on licensed premises.

(dd) "Unreasonably impracticable" means that the measures necessary to comply with the regulations require such a high investment of risk, money, time, or any other resource or asset, that the operation of a marijuana establishment is not worthy of being carried out in practice by a reasonably prudent business person.

(ee) "Youth center" shall have the same meaning as in Section 11353.1 of the Health and Safety Code.

### Chapter 2. Administration

#### 26010.

(a) The Bureau of Medical Marijuana Regulation established in Section 19302 in Chapter 3.5 of Division 8 is hereby renamed the Bureau of Marijuana Control. The director shall administer and enforce the provisions of this division in addition to the provisions of Chapter 3.5 (commencing with Section 19300) of Division 8. The director shall have the same power and authority as provided by subdivisions (b) and (c) of Section 19302.1 for purposes of this division.

(b) The bureau and the director shall succeed to and are vested with all the duties, powers, purposes, responsibilities, and jurisdiction vested in the Bureau of Medical Marijuana Regulation under Chapter 3.5 (commencing with Section 19300) of Division 8.
(c) In addition to the powers, duties, purposes, responsibilities, and jurisdiction referenced in subdivision (b), the bureau shall heretofore have the power, duty, purpose, responsibility, and jurisdiction to regulate commercial marijuana activity as provided in this division.
(d) Upon the effective date of this section, whenever "Bureau of Medical Marijuana Regulation" appears in any statute, regulation, or contract, or in any other code, it shall be construed to refer to the bureau.

26011. - Neither the chief of the bureau nor any member of the Marijuana Control Appeals Panel established under Section 26040 shall have nor do any of the following:
(a) Receive any commission or profit whatsoever, directly or indirectly, from any person applying for or receiving any license or permit under this division or Chapter 3.5 (commencing with Section 19300) of Division 8.
(b) Engage or have any interest in the sale or any insurance covering a licensee’s business or premises.
(c) Engage or have any interest in the sale of equipment for use upon the premises of a licensee engaged in commercial marijuana activity.
(d) Knowingly solicit any licensee for the purchase of tickets for benefits or contributions for benefits.
(e) Knowingly request any licensee to donate or receive money, or any other thing of value, for the benefit of any person whatsoever.

26012. - It being a matter of statewide concern, except as otherwise authorized in this division:
(1) The Department of Consumer Affairs shall have the exclusive authority to create, issue, renew, discipline, suspend, or revoke licenses for the transportation, storage unrelated to manufacturing activities, distribution, and sale of marijuana within the state.
(2) The Department of Food and Agriculture shall administer the provisions of this division related to and associated with the cultivation of marijuana. The Department of Food and Agriculture shall have the authority to create, issue, and suspend or revoke cultivation licenses for violations of this division.
(3) The Department of Public Health shall administer the provisions of this division related to and associated with the manufacturing and testing of marijuana. The Department of Public Health shall have the authority to create, issue, and suspend or revoke manufacturing and testing licenses for violations of this division.
(b) The licensing authorities and the bureau shall have the authority to collect fees in connection with activities they regulate concerning marijuana. The bureau may create licenses in addition to those identified in this division that the bureau deems necessary to effectuate its duties under this division.
(c) Licensing authorities shall begin issuing licenses under this division by January 1, 2018.
26013. Licensing authorities shall make and prescribe reasonable rules and regulations as may be necessary to implement, administer and enforce their respective duties under this division in accordance with Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code. Such rules and regulations shall be consistent with the purposes and intent of the Control, Regulate and Tax Adult Use of Marijuana Act.

(b) Licensing authorities may prescribe, adopt, and enforce any emergency regulations as necessary to implement, administer and enforce their respective duties under this division. Any emergency regulation prescribed, adopted or enforced pursuant to this section shall be adopted in accordance with Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code, and, for purposes of that chapter, including Section 11349.6 of the Government Code, the adoption of the regulation is an emergency and shall be considered by the Office of Administrative Law as necessary for the immediate preservation of the public peace, health and safety, and general welfare.

(c) Regulations issued under this division shall be necessary to achieve the purposes of this division, based on best available evidence, and shall mandate only commercially feasible procedures, technology; or other requirements, and shall not unreasonably restrain or inhibit the development of alternative procedures or technology to achieve the same substantive requirements, nor shall such regulations make compliance unreasonably impracticable.

26014. (a) The bureau shall convene an advisory committee to advise the bureau and licensing authorities on the development of standards and regulations pursuant to this division, including best practices and guidelines that protect public health and safety while ensuring a regulated environment for commercial marijuana activity that does not impose such unreasonably impracticable barriers so as to perpetuate, rather than reduce and eliminate, the illicit market for marijuana.

(b) The advisory committee members shall include, but not be limited to, representatives of the marijuana industry, representatives of labor organizations, appropriate state and local agencies, public health experts, and other subject matter experts, including representatives from the Department of Alcoholic Beverage Control, with expertise in regulating commercial activity for adult-use intoxicating substances. The advisory committee members shall be determined by the director.

(c) Commencing on January 1, 2019, the advisory committee shall publish an annual public report describing its activities including, but not limited to, the recommendations the advisory committee made to the bureau and licensing authorities during the immediately preceding calendar year and whether those recommendations were implemented by the bureau or licensing authorities.

26015. A licensing authority may make or cause to be made such investigation as it deems necessary to carry out its duties under this division.
26016. For any hearing held pursuant to this division, except a hearing held under Chapter 4, a licensing authority may delegate the power to hear and decide to an administrative law judge. Any hearing before an administrative law judge shall be pursuant to the procedures, rules, and limitations prescribed in Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code.

26017. In any hearing before a licensing authority pursuant to this division, the licensing authority may pay any person appearing as a witness at the hearing at the request of the licensing authority pursuant to a subpoena, his or her actual, necessary, and reasonable travel, food, and lodging expenses, not to exceed the amount authorized for state employees.

26018. A licensing authority may on its own motion at any time before a penalty assessment is placed into effect, and without any further proceedings, review the penalty, but such review shall be limited to its reduction.

Chapter 3. Enforcement

26030. Grounds for disciplinary action include:
(a) Failure to comply with the provisions of this division or any rule or regulation adopted pursuant to this division.
(b) Conduct that constitutes grounds for denial of licensure pursuant to Chapter 3 (commencing with Section 490) of Division 1.5.
(c) Any other grounds contained in regulations adopted by a licensing authority pursuant to this division.
(d) Failure to comply with any state law including, but not limited to, the payment of taxes as required under the Revenue and Taxation Code, except as provided for in this division or other California law.
(e) Knowing violations of any state or local law, ordinance, or regulation conferring worker protections or legal rights on the employees of a licensee.
(f) Failure to comply with the requirement of a local ordinance regulating commercial marijuana activity.
(g) The intentional and knowing sale of marijuana or marijuana products by a licensee to a person under the legal age to purchase or possess.
26031. Each licensing authority may suspend or revoke licenses, after proper notice and hearing to the licensee, if the licensee is found to have committed any of the acts or omissions constituting grounds for disciplinary action. The disciplinary proceedings under this chapter shall be conducted in accordance with Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code, and the director of each licensing authority shall have all the powers granted therein.

26032. Each licensing authority may take disciplinary action against a licensee for any violation of this division when the violation was committed by the licensee's agent or employee while acting on behalf of the licensee or engaged in commercial marijuana activity.

26033. Upon suspension or revocation of a license, the licensing authority shall inform the bureau. The bureau shall then inform all other licensing authorities.

26034. Accusations against licensees under this division shall be filed within the same time limits as specified in Section 19314 or as otherwise provided by law.

26035. The director shall designate the persons employed by the Department of Consumer Affairs for purposes of the administration and enforcement of this division. The director shall ensure that a sufficient number of employees are qualified peace officers for purposes of enforcing this division.

26036. Nothing in this division shall be interpreted to supersede or limit state agencies from exercising their existing enforcement authority, including, but not limited to, under the Fish and Game Code, the Food and Agricultural Code, the Government Code, the Health and Safety Code, the Public Resources Code, the Water Code, or the application of those laws.

26037. (a) The actions of a licensee, its employees, and its agents that are: (1) permitted under a license issued under this division and any applicable local ordinances; and (2) conducted in accordance with the requirements of this division and regulations adopted pursuant to this division, are not unlawful under state law and shall not be an offense subject to arrest, prosecution, or other sanction under state law, or be subject to a civil fine or be a basis for seizure or forfeiture of assets under state law.

(b) The actions of a person, who, in good faith, allows his or her property to be used by a licensee, its employees, and its agents, as permitted pursuant to a state license and any
This statute has been replaced with the Medicinal and Adult-Use Regulation and Safety Act (included in this PEIR as Appendix H), but is presented here for informational purposes.

**Comprehensive**

**Adult Use of Marijuana Act – 2016**

**Proposition 64**

applicable local ordinances, are not unlawful under state law and shall not be an offense subject to arrest, prosecution, or other sanction under state law, or be subject to a civil fine or be a basis for seizure or forfeiture of assets under state law.

26038.

(a) A person engaging in commercial marijuana activity without a license required by this division shall be subject to civil penalties of up to three times the amount of the license fee for each violation, and the court may order the destruction of marijuana associated with that violation in accordance with Section 11479 of the Health and Safety Code. Each day of operation shall constitute a separate violation of this section. All civil penalties imposed and collected pursuant to this section by a licensing authority shall be deposited into the General Fund except as provided in subdivision (b).

(b) If an action for civil penalties is brought against a licensee pursuant to this division by the Attorney General on behalf of the people, the penalty collected shall be deposited into the General Fund. If the action is brought by a district attorney or county counsel, the penalty shall first be used to reimburse the district attorney or county counsel for the costs of bringing the action for civil penalties, with the remainder, if any, to be deposited into the General Fund. If the action is brought by a city attorney or city prosecutor, the penalty collected shall first be used to reimburse the city attorney or city prosecutor for the costs of bringing the action for civil penalties, with the remainder, if any, to be deposited into the General Fund.

(c) Notwithstanding subdivision (a), criminal penalties shall continue to apply to an unlicensed person engaging in commercial marijuana activity in violation of this division.

**Chapter 4. Appeals**

26040.

(a) There is established in state government a Marijuana Control Appeals Panel which shall consist of three members appointed by the Governor and subject to confirmation by a majority vote of all of the members elected to the Senate. Each member, at the time of his or her initial appointment, shall be a resident of a different county from the one in which either of the other members resides. Members of the panel shall receive an annual salary as provided for by Chapter 6 (commencing with Section 11550) of Part 1 of Division 3 of Title 2 of the Government Code.

(b) The members of the panel may be removed from office by the Governor, and the Legislature shall have the power, by a majority vote of all members elected to each house, to remove any member from office for dereliction of duty, corruption or incompetency.

(c) A concurrent resolution for the removal of any member of the panel may be introduced in the Legislature only if jive Members of the Senate, or ten Members of the Assembly, join as authors.
26041. All personnel of the panel shall be appointed, employed, directed, and controlled by the panel consistent with state civil service requirements. The director shall furnish the equipment, supplies, and housing necessary for the authorized activities of the panel and shall perform such other mechanics of administration as the panel and the director may agree upon.

26042. The panel shall adopt procedures for appeals similar to the procedures used in Articles 3 (commencing with Section 23075) and Article 4 (commencing with Section 23080) in Chapter 1.5 in Division 9 of the Business and Professions Code. Such procedures shall be adopted in accordance with the Administrative Procedure Act (Chapter 3.5 commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code.

26043. (a) When any person aggrieved thereby appeals from a decision of the bureau or any licensing authority ordering any penalty assessment, issuing, denying, transferring, conditioning, suspending or revoking any license provided for under this division, the panel shall review the decision subject to such limitations as may be imposed by the Legislature. In such cases, the panel shall not receive evidence in addition to that considered by the bureau or the licensing authority.

(b) Review by the panel of a decision of the bureau or a licensing authority shall be limited to the following questions:
   1. Whether the bureau or any licensing authority has proceeded without or in excess of its jurisdiction.
   2. Whether the bureau or any licensing authority has proceeded in the manner required by law.
   3. Whether the decision is supported by the findings.
   4. Whether the findings are supported by substantial evidence in the light of the whole record.

26044. (a) In appeals where the panel finds that there is relevant evidence which, in the exercise of reasonable diligence, could not have been produced or which was improperly excluded at the hearing before the bureau or licensing authority, it may enter an order remanding the matter to the bureau or licensing authority for reconsideration in the light of such evidence.

(b) Except as provided in subdivision (a), in all appeals, the panel shall enter an order either affirming or reversing the decision of the bureau or licensing authority. When the order reverses the decision of the bureau or licensing authority, the board may direct the reconsideration of the matter in the light of its order and may direct the bureau or licensing authority to take such further action as is specially enjoined upon it by law, but the order shall not limit or control in any way the discretion vested by law in the bureau or licensing authority.
26045.
Orders of the panel shall be subject to judicial review under Section 1094.5 of the Code of Civil Procedure upon petition by the bureau or licensing authority or any party aggrieved by such order.

Chapter 5. Licensing

26050.
(a) The license classification pursuant to this division shall, at a minimum, be as follows:
   (1) Type 1 - Cultivation; Specialty outdoor; Small.
   (2) Type 1A - Cultivation; Specialty indoor; Small.
   (3) Type 1B - Cultivation; Specialty mixed-light; Small.
   (4) Type 2 - Cultivation; Outdoor; Small.
   (5) Type 2A - Cultivation; Indoor; Small.
   (6) Type 2B - Cultivation; Mixed-light; Small.
   (7) Type 3 - Cultivation; Outdoor; Medium.
   (8) Type 3A - Cultivation; Indoor; Medium.
   (9) Type 3B - Cultivation; Mixed-light; Medium.
   (10) Type 4 - Cultivation; Nursery.
   (11) Type 5 - Cultivation; Outdoor; Large.
   (12) Type 5A - Cultivation; Indoor; Large.
   (13) Type 5B - Cultivation; Mixed-light; Large.
   (14) Type 6 - Manufacturer 1.
   (15) Type 7 - Manufacturer 2.
   (16) Type 8 - Testing.
   (17) Type 10 - Retailer.
   (18) Type 11 - Distributor.
   (19) Type 12 - Microbusiness.
(b) All licenses issued under this division shall bear a clear designation indicating that the license is for commercial marijuana activity as distinct from commercial medical cannabis activity licensed under Chapter 3.5 (commencing with Section 19300) of Division 8. Examples of such a designation include, but are not limited to, "Type 1 - Nonmedical, "or "Type J NM."
(c) A license issued pursuant to this division shall be valid for 12 months from the date of issuance. The license may be renewed annually.
(d) Each licensing authority shall establish procedures for the issuance and renewal of licenses.
(e) Notwithstanding subdivision (c), a licensing authority may issue a temporary license for a period of less than 12 months. This subdivision shall cease to be operative on January 1, 2019.

26051.
(a) In determining whether to grant, deny, or renew a license authorized under this division, a licensing authority shall consider factors reasonably related to the determination, including,
but not limited to, whether it is reasonably foreseeable that issuance, denial, or renewal of
the license could:
(1) Allow unreasonable restrains on competition by creation or maintenance of unlawful
monopoly power;
(2) Perpetuate the presence of an illegal market for marijuana or marijuana products in the
state or out of the state;
(3) Encourage underage use or adult abuse of marijuana or marijuana products, or illegal
diversion of marijuana or marijuana products out of the state;
(4) Result in an excessive concentration of licensees in a given city, county, or both;
(5) Present an unreasonable risk of minors being exposed to marijuana or marijuana
products; or
(6) Result in violations of any environmental protection laws.
(b) A licensing authority may deny a license or renewal of a license based upon the
considerations in subdivision (a).
(c) For purposes of this section, "excessive concentration" means when the premises for a retail
license, microbusiness license, or a license issued under Section 26070.5 is located in an area
where either of the following conditions exist:
(1) The ratio of a licensee to population in the census tract or census division in which the
applicant premises are located exceeds the ratio of licensees to population in the county in
which the applicant premises are located, unless denial of the application would unduly
limit the development of the legal market so as to perpetuate the illegal market for
marijuana or marijuana products.
(2) The ratio of retail licenses, microbusiness licenses, or licenses under Section 26070.5 to
population in the census tract, division or jurisdiction exceeds that allowable by local
ordinance adopted under Section 26200.

26052.
(a) No licensee shall perform any of the following acts, or permit any such acts to be performed
by any employee, agent, or contractor of such licensee:
(1) Make any contract in restraint of trade in violation of Section 16600;
(2) Form a trust or other prohibited organization in restraint of trade in violation of Section
16720;
(3) Make a sale or contract for the sale of marijuana or marijuana products, or to fix a price
charged therefor, or discount from, or rebate upon, such price, on the condition,
agreement or understanding that the consumer or purchaser thereof shall not use or deal
in the goods, merchandise, machinery, supplies, commodities, or services of a competitor
or competitors of such seller, where the effect of such sale, contract, condition, agreement
or understanding may be to substantially lessen competition or tend to create a monopoly
in any line of trade or commerce;
(4) Sell any marijuana or marijuana products at less than cost for the purpose of injuring
competitors, destroying competition, or misleading or deceiving purchasers or prospective
purchasers;
(5) Discriminate between different sections, communities, or cities or portions thereof, or between different locations in such sections, communities, cities or portions thereof in this state, by selling or furnishing marijuana or marijuana products at a lower price in one section, community, or city or 'any portion thereof, or in one location in such section, community, or city or any portion thereof, than in another, for the purpose of injuring competitors or destroying competition; or

(6) Sell any marijuana or marijuana products at less than the cost thereof to such vendor, or to give away any article or product for the purpose of injuring competitors or destroying competition.

(b) Any person who, either as director, officer or agent of any firm or corporation, or as agent of any person, violates the provisions of this chapter, assists or aids, directly or indirectly, in such violation is responsible therefor equally with the person, firm or corporation for which such person acts.

(c) A licensing authority may enforce this section by appropriate regulation.

(d) Any person or trade association may bring an action to enjoin and restrain any violation of this section for the recovery of damages.

26053.

(a) The bureau and licensing authorities may issue licenses under this division to persons or entities that hold licenses under Chapter 3.5 (commencing with Section 19300) of Division 8.

(b) Notwithstanding subdivision (a), person or entity that holds a state testing license under this division or Chapter 3.5 (commencing with Section 19300) of Division 8 is prohibited from licensure for any other activity, except testing, as authorized under this division.

(c) Except as provided in subdivision (b), a person or entity may apply for and be issued more than one license under this division.

26054.

(a) A licensee shall not also be licensed as a retailer of alcoholic beverages under Division 9 (commencing with Section 23000) or of tobacco products.

(b) No licensee under this division shall be located within a 600-foot radius of a school providing instruction in kindergarten or any grades 1 through 12, day care center, or youth center that is in existence at the time the license is issued, unless a licensing authority or a local jurisdiction specifies a different radius. The distance specified in this section shall be measured in the same manner as provided in paragraph (c) of Section 11362. 768 of the Health and Safety Code unless otherwise provided by law.

(c) It shall be lawful under state and local law, and shall not be a violation of state or local law, for a business engaged in the manufacture of marijuana accessories to possess, transport, purchase or otherwise obtain small amounts of marijuana or marijuana products as necessary to conduct research and development related to such marijuana accessories, provided such marijuana and marijuana products are obtained from a person or entity licensed under this division or Chapter 3.5 (commencing with Section 19300) of Division 8 permitted to provide or deliver such marijuana or marijuana products.

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26054.1
(a) No licensing authority shall issue or renew a license to any person that cannot demonstrate continuous California residency from or before January 1, 2015. In the case of an applicant or licensee that is an entity, the entity shall not be considered a resident if any person controlling the entity cannot demonstrate continuous California residency from and before January 1, 2015.
(b) Subdivision (a) shall cease to be operable on December 31, 2019 unless reenacted prior thereto by the Legislature.

26054.2
(a) A licensing authority shall give priority in issuing licenses under this division to applicants that can demonstrate to the authority's satisfaction that the applicant operated in compliance with the Compassionate Use Act and its implementing laws before September 1, 2016, or currently operates in compliance with Chapter 3.5(commencing with Section 19300) of Division 8.
(b) The bureau shall request that local jurisdictions identify for the bureau potential applicants for licensure based on the applicants’ prior operation in the local jurisdiction in compliance with state law, including the Compassionate Use Act and its implementing laws, and any applicable local laws. The bureau shall make the requested information available to licensing authorities.
(c) In addition to or in lieu of the information described in subdivision (b), an applicant may furnish other evidence to demonstrate operation in compliance with the Compassionate Use Act or Chapter 3.5 (commencing with Section 19300) of Division 8. The bureau and licensing authorities may accept such evidence to demonstrate eligibility for the priority provided for in subdivision (a).
(d) This section shall cease to be operable on December 31, 2019 unless otherwise provided by law.

26055.
(a) Licensing authorities may issue state licenses only to qualified applicants.
(b) Revocation of a state license issued under this division shall terminate the ability of the licensee to operate within California until the licensing authority reinstates or reissues the state license.
(c) Separate licenses shall be issued for each of the premises of any licensee having more than one location, except as otherwise authorized by law or regulation.
(d) After issuance or transfer of a license, no licensee shall change or alter the premises in a manner which materially or substantially alters the premises, the usage of the premises, or the mode or character of business operation conducted from the premises, from the plan contained in the diagram on file with the application, unless and until prior written assent of the licensing authority or bureau has been obtained. For purposes of this section, material or

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substantial physical changes of the premises, or in the usage of the premises, shall include, but not be limited to, a substantial increase or decrease in the total area of the licensed premises previously diagrammed, or any other physical modification resulting in substantial change in the mode or character of business operation.

(e) Licensing authorities shall not approve an application for a state license under this division if approval of the state license will violate the provisions of any local ordinance or regulation adopted in accordance with Section 26200.

26056.
An applicant for any type of state license issued pursuant to this division shall comply with the same requirements as set forth in Section 19322 of Chapter 3.5 of Division 8 unless otherwise provided by law, including electronic submission of fingerprint images, and any other requirements imposed by law or a licensing authority, except as follows:

(a) Notwithstanding paragraph (2) of subdivision (a) of Section 19322, an applicant need not provide documentation that the applicant has obtained a license, permit or other authorization to operate from the local jurisdiction in which the applicant seeks to operate;
(b) An application for a license under this division shall include evidence that the proposed location meets the restriction in subdivision (b) of Section 26054; and
(c) For applicants seeking licensure to cultivate, distribute, or manufacture nonmedical marijuana or marijuana products, the application shall also include a detailed description of the applicant's operating procedures for all of the following, as required by the licensing authority:
   (1) Cultivation.
   (2) Extraction and infusion methods.
   (3) The transportation process.
   (4) The inventory process.
   (5) Quality control procedures.
   (6) The source or sources of water the applicant will use for the licensed activities, including a certification that the applicant may use that water legally under state law.
(d) The applicant shall provide a complete detailed diagram of the proposed premises wherein the license privileges will be exercised, with sufficient particularity to enable ready determination of the bounds of the premises, showing all boundaries, dimensions, entrances and exits, interior partitions, walls, rooms, and common or shared entryways, and include a brief statement or description of the principal activity to be conducted therein, and, for licenses permitting cultivation, measurements of the planned canopy including aggregate square footage and individual square footage of separate cultivation areas, if any.

26056.5.
The bureau shall devise protocols that each licensing authority shall implement to ensure compliance with state laws and regulations related to environmental impacts, natural resource protection, water quality, water supply, hazardous materials, and pesticide use in accordance with state law.
with regulations, including but not limited to, the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code), the California Endangered Species Act (Chapter 1.5 (commencing with Section 2050), lake or streambed alteration agreements (Chapter 6 (commencing with Section 1600), the Clean Water Act (33 U.S.C. Sec 1251 et seq.), the Porter-Cologne Water Quality Control Act (Division 7 commencing with Section 13000) of the Water Code), timber production zones, wastewater discharge requirements, and any permit or right necessary to divert water.

26057.
(a) The licensing authority shall deny an application if either the applicant, or the premises for which a state license is applied, do not qualify for licensure under this division.
(b) The licensing authority may deny the application for licensure or renewal of a state license if Any of the following conditions apply:
(1) Failure to comply with the provisions of this division, any rule or regulation adopted pursuant to this division, or any requirement imposed to protect natural resources, including, but not limited to, protections for instream flow and water quality.
(2) Conduct that constitutes grounds for denial of licensure under Chapter 2 (commencing with Section 480) of Division 1.5, except as otherwise specified in this section and Section 26059.
(3) Failure to provide information required by the licensing authority.
(4) The applicant or licensee has been convicted of an offense that is substantially related to the qualifications, functions, or duties of the business or profession for which the application is made, except that if the licensing authority determines that the applicant or licensee is otherwise suitable to be issued a license, and granting the license would not compromise public safety, the licensing authority shall conduct a thorough review of the nature of the crime, conviction, circumstances, and evidence of rehabilitation of the applicant, and shall evaluate the suitability of the applicant or licensee to be issued a license based on the evidence found through the review. In determining which offenses are substantially related to the qualifications, functions, or duties of the business or profession for which the application is made, the licensing authority shall include, but not be limited to, the following:
(A) A violent felony conviction, as specified in subdivision (c) of Section 667.5 of the Penal Code.
(B) A serious felony conviction, as specified in subdivision (c) of Section 1192.7 of the Penal Code.
(C) A felony conviction involving fraud, deceit, or embezzlement.
(D) A felony conviction for hiring, employing, or using a minor in transporting, carrying, selling, giving away, preparing for sale, or peddling, any controlled substance to a minor; or selling, offering to sell, furnishing, offering to furnish, administering, or giving any controlled substance to a minor.
(E) A felony conviction for drug trafficking with enhancements pursuant to Sections 11370.4 or 11379.8.
(5) Except as provided in subparagraphs (D) and (E) of paragraph (4) and notwithstanding Chapter 2 (commencing with Section 480) of Division 1.5, a prior conviction, where the sentence, including any term of probation, incarceration, or supervised release, is completed, for possession of, possession for sale, sale, manufacture, transportation, or cultivation of a controlled substance is not considered substantially related, and shall not be the sole ground for denial of a license. Conviction for any controlled substance felony subsequent to licensure shall be grounds for revocation of a license or denial of the renewal of a license.

(6) The applicant, or any of its officers, directors, or owners, has been subject to fines or penalties for cultivation or production of a controlled substance on public or private lands pursuant to Sections 12025 or 12025.1 of the Fish and Game Code.

(7) The applicant, or any of its officers, directors, or owners, has been sanctioned by a licensing authority or a city, county, or city and county for unauthorized commercial marijuana activities or commercial medical cannabis activities, has had a license revoked under this division or Chapter 3.5(commencing with Section 19300) of Division 8 in the three years immediately preceding the date the application is filed with the licensing authority, or has been sanctioned under Sections 12025 or 12025.1 of the Fish and Game Code.

(8) Failure to obtain and maintain a valid seller's permit required pursuant to Part 1 (commencing with Section 6001) of Division 2 of the Revenue and Taxation Code.

(9) Any other condition specified in law.

26058.
Upon the denial of any application for a license, the licensing authority shall notify the applicant in writing.

26059.
An applicant shall not be denied a state license if the denial is based solely on any of the following:
(a) A conviction or act that is substantially related to the qualifications, functions, or duties of the business or profession for which the application is made for which the applicant or licensee has obtained a certificate of rehabilitation pursuant to Chapter 3.5 (commencing with Section 4852.01) of Title 6 of Part 3 of the Penal Code.
(b) A conviction that was subsequently dismissed pursuant to Sections 1203.4, 1203.4a, or 1203.41 of the Penal Code or any other provision allowing for dismissal of a conviction.

Chapter 6. Licensed Cultivation Sites

26060.
(a) Regulations issued by the Department of Food and Agriculture governing the licensing of indoor, outdoor, and mixed-light cultivation sites shall apply to licensed cultivators under this division.
This statute has been replaced with the Medicinal and Adult-Use Regulation and Safety Act (included in this PEIR as Appendix H), but is presented here for informational purposes.

Comprehensive
Adult Use of Marijuana Act – 2016
Proposition 64

(b) Standards developed by the Department of Pesticide Regulation, in consultation with the Department of Food and Agriculture, for the use of pesticides in cultivation, and maximum tolerances for pesticides and other foreign object residue in harvested cannabis shall apply to licensed cultivators under this division.

(c) The Department of Food and Agriculture shall include conditions in each license requested by the Department of Fish and Wildlife and the State Water Resources Control Board to ensure that individual and cumulative effects of water diversion and discharge associated with cultivation do not affect the instream flows needed for fish spawning, migration, and rearing, and the flows needed to maintain natural flow variability, and to otherwise protect fish, wildlife, fish and wildlife habitat, and water quality.

(d) The regulations promulgated by the Department of Food and Agriculture under this division shall, at a minimum, address in relation to commercial marijuana activity, the same matters described in subdivision (e) of Section 19332.

(e) The Department of Pesticide Regulation, in consultation with the State Water Resources Control Board, shall promulgate regulations that require that the application of pesticides or other pest control in connection with the indoor, outdoor, or mixed light cultivation of marijuana meets standards equivalent to Division 6 (commencing with Section 11401) of the Food and Agricultural Code and its implementing regulations.

26061.

(a) The state cultivator license types to be issued by the Department of Food and Agriculture under this division shall include Type 1, Type 1A, Type 1B, Type 2, Type 2A, Type 2B, Type 3, Type 3A, Type 3B, Type 4, and Type 5, Type 5A, and Type 5B unless otherwise provided by law.

(b) Except as otherwise provided by law, Type 1, Type 1A, Type 1B, Type 2, Type 2A, Type 2B, Type 3, Type 3A, Type 3B and Type 4 licenses shall provide for the cultivation of marijuana in the same amount as the equivalent license type for cultivation of medical cannabis as specified in subdivision (g) of Section 19332.

(c) Except as otherwise provided by law:

(1) Type 5, or “outdoor,” means for outdoor cultivation using no artificial lighting greater than one acre, inclusive, of total canopy size on one premises.

(2) Type 5A, or “indoor,” means for indoor cultivation using exclusively artificial lighting greater than 22,000 square feet, inclusive, of total canopy size on one premises.

(3) Type 5B, or "mixed-light," means for cultivation using a combination of natural and supplemental artificial lighting at a maximum threshold to be determined by the licensing authority, greater than 22,000 square feet, inclusive, of total canopy size on one premise.

(d) No Type 5, Type 5A, or Type 5B cultivation licenses may be issued before January 1, 2023.

(e) Commencing on January 1, 2023, a Type 5, Type 5A, or Type 5B licensee may apply for and hold a Type 6 or Type 7 license and apply for and hold Type 10 license. A Type 5, Type 5A, or Type 5B licensee shall not eligible to apply for or hold a Type 8, Type 11, or Type 12 license.

Revised 03/06/2017
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Page 28
26062. The Department of Food and Agriculture, in conjunction with the bureau, shall establish a certified organic designation and organic certification program for marijuana and marijuana products in the same manner as provided in Section 19332.5 of Chapter 3.5 of Division 8.

26063. (a) The bureau shall establish standards for recognition of a particular appellation of origin applicable to marijuana grown or cultivated in a certain geographical area in California.
(b) Marijuana shall not be marketed, labeled, or sold as grown in a California county when the marijuana was not grown in that county.
(c) The name of a California county shall not be used in the labeling, marketing, or packaging of marijuana products unless the marijuana contained in the product was grown in that county.

26064. Each licensed cultivator shall ensure that the licensed premises do not pose an unreasonable risk of fire or combustion. Each cultivator shall ensure that all lighting, wiring, electrical and mechanical devices, or other relevant property is carefully maintained to avoid unreasonable or dangerous risk to the property or others.

26065. An employee engaged in the cultivation of marijuana under this division shall be subject to Wage Order No. 4-2001 of the Industrial Welfare Commission.

26066. Indoor and outdoor marijuana cultivation by persons and entities licensed under this division shall be conducted in accordance with state and local laws related to land conversion, grading, electricity usage, water usage, water quality, woodland and riparian habitat protection, agricultural discharges, and similar matters. State agencies, including, but not limited to, the Board of Forestry and Fire Protection, the Department of Fish and Wildlife, the State Water Resources Control Board, the California regional water quality control boards, and traditional state law enforcement agencies, shall address environmental impacts of marijuana cultivation and shall coordinate when appropriate with cities and counties and their law enforcement agencies in enforcement efforts.

26067. (a) The Department of Food and Agriculture shall establish a Marijuana Cultivation Program, to be administered by the Secretary of Food and Agriculture. The secretary shall administer this section as it pertains to the cultivation of marijuana. For purposes of this division, marijuana is an agricultural product.
(b) A person or entity shall not cultivate marijuana without first obtaining a state license issued by the department pursuant to this section.
(c)

(1) The department, in consultation with, but not limited to, the bureau, the State Water Resources Control Board, and the Department of Fish and Wildlife, shall implement a unique identification program for marijuana. In implementing the program, the department shall consider issues including, but not limited to, water use and environmental impacts. In implementing the program, the department shall ensure that:

(A) Individual and cumulative effects of water diversion and discharge associated with cultivation do not affect the instream flows needed for fish spawning, migration, and rearing, and the flows needed to maintain natural flow variability. If a watershed cannot support additional cultivation, no new plant identifiers will be issued for that watershed.

(B) Cultivation will not negatively impact springs, riparian wetlands and aquatic habitats.

(2) The department shall establish a program for the identification of permitted marijuana plants at a cultivation site during the cultivation period. A unique identifier shall be issued for each marijuana plant. The department shall ensure that unique identifiers are issued as quickly as possible to ensure the implementation of this division. The unique identifier shall be attached at the base of each plant or as otherwise required by law or regulation.

(A) Unique identifiers will only be issued to those persons appropriately licensed by this section.

(B) Information associated with the assigned unique identifier and licensee shall be included in the trace and track program specified in Section 26170.

(C) The department may charge a fee to cover the reasonable costs of issuing the unique identifier and monitoring, tracking, and inspecting each marijuana plant.

(D) The department may promulgate regulations to implement this section.

(3) The department shall take adequate steps to establish protections against fraudulent unique identifiers and limit illegal diversion of unique identifiers to unlicensed persons.

(d) Unique identifiers and associated identifying information administered by local jurisdictions shall adhere to the requirements set by the department and be the equivalent to those administered by the department.

(e)

(1) This section does not apply to the cultivation of marijuana in accordance with Section 11362.1 Of the Health and Safety Code or the Compassionate Use Act.

(2) Subdivision (b) of this section does not apply to persons or entities licensed under either paragraph (3) of subdivision (a) of Section 26070 or subdivision (b) of Section 26070.5.

(f) "Department “for purposes of this section means the Department of Food and Agriculture.
Chapter 7. Retailers and Distributors

26070. Retailers and Distributors
(a) State licenses to be issued by the Department of Consumer Affairs are as follows:
   (1) "Retailer," for the retail sale and delivery of marijuana or marijuana products to customers.
   (2) "Distributor," for the distribution of marijuana and marijuana products. A distributor
       licensee shall be bonded and insured at a minimum level established by the licensing
       authority.
   (3) "Microbusiness," for the cultivation of marijuana on an area less than 10,000 square feet
       and to act as a licensed distributor, Level 1 manufacturer, and retailer under this division,
       provided such licensee complies with all requirements imposed by this division on licensed
       cultivators, distributors, Level 1 manufacturers, and retailers to the extent the licensee
       engages in such activities. Microbusiness licenses that authorize cultivation of marijuana
       shall include conditions requested by the Department of Fish and Wildlife and the State
       Water Resources Control Board to ensure that individual and cumulative effects of water
       diversion and discharge associated with cultivation do not affect the instream flows
       needed for fish spawning, migration, and rearing, and the flow needed to maintain flow
       variability, and otherwise protect fish, wildlife, fish and wildlife habitat, and water quality.
(b) The bureau shall establish minimum security and transportation safety requirements for the
    commercial distribution and delivery of marijuana and marijuana products. The
    transportation safety standards established by the bureau shall include, but not be limited to,
    minimum standards governing the types of vehicles in which marijuana and marijuana
    products may be distributed and delivered and minimum qualifications for persons eligible to
    operate such vehicles.
(c) Licensed retailers and microbusinesses, and licensed nonprofits under Section 26070.5, shall
    implement security measures reasonably designed to prevent unauthorized entrance into
    areas containing marijuana or marijuana products and theft of marijuana or marijuana
    products from the premises. These security measures shall include, but not be limited to, all
    of the following:
       (1) Prohibiting individuals from remaining on the licensee's premises if they are not engaging
           in activity expressly related to the operations of the dispensary.
       (2) Establishing limited access areas accessible only to authorized personnel.
       (3) Other than limited amounts of marijuana used for display purposes, samples, or
           immediate sale, storing all finished marijuana and marijuana products in a secured and
           locked room, safe, or vault, and in a manner reasonably designed to prevent diversion,
           theft, and loss.

26070.5
(a) The bureau shall, by January 1, 2018, investigate the feasibility of creating one or more
    classifications of nonprofit licenses under this section. The feasibility determination shall be
made in consultation with the relevant licensing agencies and representatives of local jurisdictions which issue temporary licenses pursuant to subdivision (b). The bureau shall consider factors including, but not limited to, the following:

1. Should nonprofit licensees be exempted from any or all state taxes, licensing fees and regulatory provisions applicable to other licenses in this division?
2. Should funding incentives be created to encourage others licensed under this division to provide professional services at reduced or no cost to nonprofit licensees?
3. Should nonprofit licenses be limited to, or prioritize those, entities previously operating on a not-for-profit basis primarily providing whole-plant marijuana and marijuana products and a diversity of marijuana strains and seed stock to low income persons?

(b) Any local jurisdiction may issue temporary local licenses to nonprofit entities primarily providing whole-plant marijuana and marijuana products and a diversity of marijuana strains and seed stock to low income persons so long as the local jurisdiction:

1. Confirms the license applicant's status as a nonprofit entity registered with the California Attorney General's Registry of Charitable Trusts and that the applicant is in good standing with all state requirements governing nonprofit entities;
2. Licenses and regulates any such entity to protect public health and safety, and so as to require compliance with all environmental requirements in this division;
3. Provides notice to the bureau of any such local licenses issued, including the name and location of any such licensed entity and all local regulations governing the licensed entity's operation, and;
4. Certifies to the bureau that any such licensed entity will not generate annual gross revenues in excess of two million dollars ($2,000,000).

(c) Temporary local licenses authorized under subdivision (b) shall expire after 12 months unless renewed by the local jurisdiction.

(d) The bureau may impose reasonable additional requirements on the local licenses authorized under subdivision (b).

(e) 1. No new temporary local licenses shall be issued pursuant to this section after the date the bureau determines that creation of nonprofit licenses under this division is not feasible, or if the bureau determines such licenses are feasible, after the date a licensing agency commences issuing state nonprofit licenses.
2. If the bureau determines such licenses are feasible, no temporary license issued under Subdivision (b) shall be renewed or extended after the date on which a licensing agency commences issuing state nonprofit licenses.
3. If the bureau determines that creation of nonprofit licenses under this division is not feasible, the bureau shall provide notice of this determination to all local jurisdictions that have issued temporary licenses under subdivision (b). The bureau may, in its discretion, permit any such local jurisdiction to renew or extend on an annual basis any temporary license previously issued under subdivision (b).
Chapter 8. Distribution and Transport

26080. (a) This division shall not be construed to authorize or permit a licensee to transport or distribute, or cause to be transported or distributed, marijuana or marijuana products outside the state, unless authorized by federal law. (b) A local jurisdiction shall not prevent transportation of marijuana or marijuana products on public roads by a licensee transporting marijuana or marijuana products in compliance with this division.

Chapter 9. Delivery

26090. (a) Deliveries, as defined in this division, may only be made by a licensed retailer or microbusiness, or a licensed nonprofit under Section 26070.5. (b) A customer requesting delivery shall maintain a physical or electronic copy of the delivery request and shall make it available upon request by the licensing authority and law enforcement officers. (c) A local jurisdiction shall not prevent delivery of marijuana or marijuana products on public roads by a licensee acting in compliance with this division and local law as adopted under Section 26200.

Chapter 10. Manufacturers and Testing Laboratories

26100. The Department of Public Health shall promulgate regulations governing the licensing of marijuana manufacturers and testing laboratories. Licenses to be issued are as follows: (a) "Manufacturing Level 1," for sites that manufacture marijuana products using nonvolatile solvents, or no solvents. (b) "Manufacturing Level 2," for sites that manufacture marijuana products using volatile solvents. (c) "Testing," for testing of marijuana and marijuana products. Testing licensees shall have their facilities or devices licensed according to regulations set forth by the department. A testing licensee shall not hold a license in another license category of this division and shall not own or have ownership interest in a non-testing facility licensed pursuant to this division. (d) For purposes of this section, "volatile solvents" shall have the same meaning as in subdivision (d) of Section 11362.2 of the Health and Safety Code unless otherwise provided by law or regulation.
26101.
(a) Except as otherwise provided by law, no marijuana or marijuana products may be sold pursuant to a license provided for under this division unless a representative sample of such marijuana or marijuana product has been tested by a certified testing service to determine:
(1) Whether the chemical profile of the sample conforms to the labeled content of compounds, including, but not limited to, all of the following:
   (A) Tetrahydrocannabinol (THC).
   (B) Tetrahydrocannabinolic Acid (THCA).
   (C) Cannabidiol (CED).
   (D) Cannabidiolic Acid (CBDA).
   (E) The terpenes described in the most current version of the cannabis inflorescence monograph published by the American Herbal Pharmacopoeia.
   (F) Cannabigerol (CBG).
   (G) Cannabinol (CBN).
(2) That the presence of contaminants does not exceed the levels in the most current version of the American Herbal Pharmacopoeia monograph. For purposes of this paragraph, contaminants includes, but is not limited to, all of the following:
   (A) Residual solvent or processing chemicals, including explosive gases, such as Butane, propane, O₂ or H₂, and poisons, toxins, or carcinogens, such as Methanol, Iso-propyl Alcohol, Methylene Chloride, Acetone, Benzene, Toluene, and Tri-chloro-ethylene.
   (B) Foreign material, including, but not limited to, hair, insects, or similar or related adulterant.
   (C) Microbiological impurity, including total aerobic microbial count, total yeast mold count, P. aeruginosa, aspergillus spp., s. aureus, aflatoxin Bl, B2, G1, or G2, or ochratoxin A.
(b) Residual levels of volatile organic compounds shall satisfy standards of the cannabis inflorescence monograph set by the United States Pharmacopoeia (U.S.P. Chapter 467).
(c) The testing required by paragraph (a) shall be performed in a manner consistent with general requirements for the competence of testing and calibrations activities, including sampling, using standard methods established by the International Organization for Standardization, specifically ISO/IEC 17020 and ISO/IEC 17025 to test marijuana and marijuana products that are approved by an accrediting body that is a signatory to the International Laboratory Accreditation Cooperation Mutual Recognition Agreement.
(d) Any pre-sale inspection, testing transfer, or transportation of marijuana products pursuant to this section shall conform to a specified chain of custody protocol and any other requirements imposed under this division.

26102.
A licensed testing service shall not handle, test, or analyze marijuana or marijuana products unless the licensed testing laboratory meets the requirements of Section 193438.

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Page 34
26103. A licensed testing service shall issue a certificate of analysis for each lot, with supporting data, to report the same information required in Section 19344 or unless otherwise provided by law.

26104. (a) A licensed testing service shall, in performing activities concerning marijuana and marijuana products, comply with the requirements and restrictions set forth in applicable law and regulations.

(b) The Department of Public Health shall develop procedures to:

   (1) Ensure that testing of marijuana and marijuana products occurs prior to distribution to retailers, microbusinesses, or nonprofits licensed under Section 26070.5;
   (2) Specify how often licensees shall test marijuana and marijuana products, and that the cost of testing marijuana shall be borne by the licensed cultivators and the cost of testing marijuana products shall be borne by the licensed manufacturer, and that the costs of testing marijuana and marijuana products shall be borne a nonprofit licensed under Section 26070.5; and
   (3) Require destruction of harvested batches whose testing samples indicate noncompliance with health and safety standards promulgated by the Department of Public Health, unless remedial measures can bring the marijuana or marijuana products into compliance with quality assurance standards as promulgated by the Department of Public Health.

26105. Manufacturing Level 2 licensees shall enact sufficient methods or procedures to capture or otherwise limit risk of explosion, combustion, or any other unreasonably dangerous risk to public safety created by volatile solvents. The Department of Public Health shall establish minimum standards concerning such methods and procedures for Level 2 licensees.

26106. Standards for the production and labeling of all marijuana products developed by the Department of Public Health shall apply to licensed manufacturers and microbusinesses, and nonprofits licensed under Section 26070.5 unless otherwise specified by the Department of Public Health.

Chapter 11. Quality Assurance, Inspection, and Testing

26110. (a) All marijuana and marijuana products shall be subject to quality assurance, inspection, and testing.
Chapter 12. Packaging and Labeling

26120.

(a) Prior to delivery or sale at a retailer, marijuana and marijuana products shall be labeled and placed in a resalable, child resistant package.
(b) Packages and labels shall not be made to be attractive to children.
(c) All marijuana and marijuana product labels and inserts shall include the following information prominently displayed in a clear and legible fashion in accordance with the requirements, including font size, prescribed by the bureau or the Department of Public Health:
   (1) Manufacture date and source.
   (2) The following statements, in bold print:
      (A) For marijuana: "GOVERNMENT WARNING: THIS PACKAGE CONTAINS MARIJUANA, A SCHEDULE I CONTROLLED SUBSTANCE. KEEP OUT OF REACH OF CHILDREN AND ANIMALS. MARIJUANA MAY ONLY BE POSSESSED OR CONSUMED BY PERSONS 21 YEARS OF AGE OR OLDER UNLESS THE PERSON IS A QUALIFIED PATIENT MARIJUANA USE WHILE PREGNANT OR BREASTFEEDING MAY BE HARMFUL. CONSUMPTION OF MARIJUANA IMPAIRS YOUR ABILITY TO DRIVE AND OPERATE MACHINERY PLEASE USE EXTREME CAUTION."
      (B) For marijuana products: "GOVERNMENT WARNING: THIS PRODUCT CONTAINS MARIJUANA, A SCHEDULE I CONTROLLED SUBSTANCE. KEEP OUT OF REACH OF CHILDREN AND ANIMALS. MARIJUANA PRODUCTS MAY ONLY BE POSSESSED OR CONSUMED BY PERSONS 21 YEARS OF AGE OR OLDER UNLESS THE PERSON IS A QUALIFIED PATIENT THE INTOXICATING EFFECTS OF MARIJUANA PRODUCTS MAY BE DELAYED UP TO TWO HOURS. MARIJUANA USE WHILE PREGNANT OR BREASTFEEDING MAY BE HARMFUL. CONSUMPTION OF MARIJUANA PRODUCTS IMPAIRS YOUR ABILITY TO DRIVE AND OPERATE MACHINERY PLEASE USE EXTREME CAUTION"
   (3) For packages containing only dried flower, the net weight of marijuana in the package.
   (4) Identification of the source and date of cultivation, the type of marijuana or marijuana product and the date of manufacturing and packaging.
   (5) The appellation of origin, if any.
   (6) List of pharmacologically active ingredients, including, but not limited to, tetrahydrocannabinol (THC), cannabidiol (CBD), and other cannabinoid content, the THC and other cannabinoid amount in milligrams per serving, servings per package, and the THC and other cannabinoid amount in milligrams for the package total, and the potency of the marijuana or marijuana product by reference to the amount of tetrahydrocannabinol and cannabidiol in each serving.
(7) For marijuana products, a list of all ingredients and disclosure of nutritional information in
the same manner as the federal nutritional labeling requirements in Section 101.9 of Title 21 of the Code of Federal Regulations.
(8) A list of any solvents, nonorganic pesticides, herbicides, and fertilizers that were used in
the cultivation, production, and manufacture of such marijuana or marijuana product.
(9) A warning if nuts or other known allergens are used.
(10) Information associated with the unique identifier issued by the Department of Food and
Agriculture.
(11) Any other requirement set by the bureau or the Department of Public Health.
(d) Only generic food names may be used to describe the ingredients in edible marijuana
products.
(e) In the event the bureau determines that marijuana is no longer a schedule I controlled
substance under federal law, the label prescribed in subdivision (c) shall no longer require a
statement that marijuana is a schedule I controlled substance.

Chapter 13. Marijuana Products

26130.
(a) Marijuana products shall be:
(1) Not designed to be appealing to children or easily confused with commercially sold candy
or foods that do not contain marijuana.
(2) Produced and sold with a standardized dosage of cannabinoids not to exceed ten (10)
milligrams tetrahydrocannabinol (THC) per serving.
(3) Delineated or scored into standardized serving sizes if the marijuana product contains
more than one serving and is an edible marijuana product in solid form.
(4) Homogenized to ensure uniform disbursement of cannabinoids throughout the product.
(5) Manufactured and sold under sanitation standards established by the Department of
Public Health, in consultation with the bureau, for preparation, storage, handling and sale
of food products.
(6) Provided to customers with sufficient information to enable the informed consumption of
such product, including the potential effects of the marijuana product and directions as to
how to consume the marijuana product, as necessary.
(b) Marijuana, including concentrated cannabis, included in a marijuana product manufactured in
compliance with law is not considered an adulterant under state law.

Chapter 14. Protection of Minors

26140.
(a) No licensee shall:
(1) Sell marijuana or marijuana products to persons less than 21 years of age.
(2) Allow any person less than 21 years of age on its premises.
(3) Employ or retain persons less than 21 years of age.
(4) Sell or transfer marijuana or marijuana products unless the person to whom the marijuana or marijuana product is to be sold first presents documentation which reasonably appears to be a valid government-issued identification card showing that the person is 21 years of age or older.

(b) Persons under 21 years of age may be used by peace officers in the enforcement of this division and to apprehend licensees, or employees or agents of licensees, or other persons who sell or furnish marijuana to minors. Notwithstanding any provision of law, any person under 21 years of age who purchases or attempts to purchase any marijuana while under the direction of a peace officer is immune from prosecution for that purchase or attempt to purchase marijuana. Guidelines with respect to the use of persons under 21 years of age as decoys shall be adopted and published by the bureau in accordance with the rulemaking portion of the Administrative Procedure Act (Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code).

(c) Notwithstanding subdivision (a), a licensee that is also a dispensary licensed under Chapter 3.5 (commencing with Section 19300) of Division 8 may:

1. Allow on the premises any person 18 years of age or older who possesses a valid identification card under Section 11362.71 of the Health and Safety Code and a valid government-issued identification card;

2. Sell marijuana, marijuana products, and marijuana accessories to a person 18 years of age or older who possesses a valid identification card under Section 11362.71 of the Health and Safety Code and a valid government-issued identification card.

### Chapter 15. Advertising and Marketing Restrictions

26150.

For purposes of this chapter:

(a) "Advertise" means the publication or dissemination of an advertisement.

(b) "Advertisement" includes any written or verbal statement, illustration, or depiction which is calculated to induce sales of marijuana or marijuana products, including any written, printed, graphic, or other material, billboard, sign, or other outdoor display, public transit card, other periodical literature, publication, or in a radio or television broadcast, or in any other media; except that such term shall not include:

1. Any label affixed to any marijuana or marijuana products, or any individual covering, carton, or other wrapper of such container that constitutes a part of the labeling under provisions of this division.

2. Any editorial or other reading material (e.g., news release) in any periodical or publication or newspaper for the publication of which no money or valuable consideration was paid or Promised, directly or indirectly, by any licensee, and which is not written by or at the direction of the licensee.

(c) "Advertising sign" is any sign, poster, display, billboard, or any other stationary or permanently-affixed advertisement promoting the sale of marijuana or marijuana products which are not cultivated, manufactured, distributed, or sold on the same lot.
(d) "Health-related statement" means any statement related to health, and includes statements of a curative or therapeutic nature that, expressly or by implication, suggest a relationship between the consumption of marijuana or marijuana products and health benefits, or effects on health.

(e) "Market" or "Marketing" means any act or process of promoting or selling marijuana or marijuana products, including but not limited to, sponsorship of sporting events, point of sale advertising, development of products specifically designed to appeal to certain demographics, etc.

26151.

(a) All advertisements and marketing shall accurately and legibly identify the licensee responsible for its content.

(b) Any advertising or marketing placed in broadcast, cable, radio, print and digital communications shall only be displayed where at least 71.6 percent of the audience is reasonably expected to be 21 years of age or older, as determined by reliable, up-to-date audience composition data.

(c) Any advertising or marketing involving direct, individualized communication or dialogue controlled by the licensee shall utilize a method of age affirmation to verify that the recipient is 21 years of age or older prior to engaging in such communication or dialogue controlled by the licensee. For purposes of this section, such method of age affirmation may include user confirmation, birth date disclosure, or other similar registration method.

(d) All advertising shall be truthful and appropriately substantiated.

26152.

No licensee shall:

(a) Advertise or market in a manner that is false or untrue in any material particular, or that, irrespective of falsity, directly, or by ambiguity, omission, or inference, or by the addition of irrelevant, scientific or technical matter tends to create a misleading impression;

(b) Publish or disseminate advertising or marketing containing any statement concerning a brand or product that is inconsistent with any statement on the labeling thereof;

(c) Publish or disseminate advertising or marketing containing any statement, design, device, or representation which tends to create the impression that the marijuana originated in a particular place or region, unless the label of the advertised product bears an appellation of origin, and such appellation of origin appears in the advertisement;

(d) Advertise or market on a billboard or similar advertising device located on an Interstate Highway or State Highway which crosses the border of any other state;

(e) Advertise or market marijuana or marijuana products in a manner intended to encourage persons under the age of 21 years to consume marijuana or marijuana products;

(f) Publish or disseminate advertising or marketing containing symbols, language, music, gestures, cartoon characters or other content elements known to appeal primarily to persons below the legal age of consumption; or
(g) Advertise or market marijuana or marijuana products on an advertising sign within 1,000 feet of a day care center, school providing instruction in kindergarten or any grades 1 through 12, playground, or youth center.

26153. No licensee shall give away any amount of marijuana or marijuana products, or any marijuana accessories, as part of a business promotion or other commercial activity.

26154. No licensee shall publish or disseminate advertising or marketing containing any health-related statement that is untrue in any particular manner or tends to create a misleading impression as to the effects on health of marijuana consumption.

26155. (a) The provisions of subsection (g) of section 26152 shall not apply to the placement of advertising signs inside a licensed premises and which are not visible by normal unaided vision from a public place, provided that such advertising signs do not advertise marijuana or marijuana products in a manner intended to encourage persons under the age of 21 years to consume marijuana or marijuana products.

(b) This chapter does not apply to any noncommercial speech.

Chapter 16. Records

26160. (a) A licensee shall keep accurate records of commercial marijuana activity.

(b) All records related to commercial marijuana activity as defined by the licensing authorities shall be maintained for a minimum of seven years.

(c) The bureau may examine the books and records of a licensee and inspect the premises of a licensee as the licensing authority, or a state or local agency, deems necessary to perform its duties under this division. All inspections shall be conducted during standard business hours of the licensed facility or at any other reasonable time.

(d) Licensees shall keep records identified by the licensing authorities on the premises of the location licensed. The licensing authorities may make any examination of the records of any licensee. Licensees shall also provide and deliver copies of documents to the licensing agency upon request.

(e) A licensee, or its agent or employee, that refuses, impedes, obstructs, or interferes with an inspection of the premises or records of the licensee pursuant to this section, has engaged in a violation of this division.

(f) If a licensee, or an agent or employee of a licensee, fails to maintain or provide the records Required pursuant to this section, the licensee shall be subject to a citation and fine of up to thirty thousand dollars ($30,000) per individual violation.
26161.
(a) Every sale or transport of marijuana or marijuana products from one licensee to another licensee must be recorded on a sales invoice or receipt. Sales invoices and receipts may be maintained electronically and must be filed in such manner as to be readily accessible for examination by employees of the bureau or Board of Equalization and shall not be commingled with invoices covering other commodities.
(b) Each sales invoice required by subdivision (a) shall include the following information:
(1) Name and address of the seller.
(2) Date of sale and invoice number.
(3) Kind, quantity, size, and capacity of packages of marijuana or marijuana products sold.
(4) The cost to the purchaser, together with any discount applied to the price as shown on the invoice.
(5) The place from which transport of the marijuana or marijuana product was made unless transport was made from the premises of the licensee.
(6) Any other information specified by the bureau or the licensing authority.

Chapter 17. Track and Trace System

26170.
(a) The Department of Food and Agriculture, in consultation with the bureau and the State Board of Equalization, shall expand the track and trace program provided for under Article 7.5 (commencing with Section 19335) of Chapter 3.5 of Division 8 to include the reporting of the movement of marijuana and marijuana products throughout the distribution chain and provide, at a minimum, the same level of information for marijuana and marijuana products as required to be reported for medical cannabis and medical cannabis products, and in addition, the amount of the cultivation tax due pursuant to Part 14.5 (commencing with Section 34010) of Division 2 of the Revenue and Taxation Code. The expanded track and trace program shall include an electronic seed to sale software tracking system with data points for the different stages of commercial activity including, but not limited to, cultivation, harvest, processing, distribution, inventory, and sale.
(b) The department, in consultation with the bureau, shall ensure that licensees under this division are allowed to use third-party applications, programs and information technology systems to comply with the requirements of the expanded track and trace program described in subdivision (a) to report the movement of marijuana and marijuana products throughout the distribution chain and communicate such information to licensing agencies as required by law.
(c) Any software, database or other information technology system utilized by the Department to implement the expanded track and trace program shall support interoperability with third-party cannabis business software applications and allow all licensee-facing system activities to be performed through a secure application programming interface (API) or comparable
technology which is well documented, bi-directional, and accessible to any third-party application that has been validated and has appropriate credentials. The API or comparable technology shall have version control and provide adequate notice of updates to third-party applications. The system should provide a test environment for third-party applications to access that mirrors the production environment.

**Chapter 18. License Fees**

**26180.**
Each licensing authority shall establish a scale of application, licensing, and renewal fees, based upon the cost of enforcing this division, as follows:
(a) Each licensing authority shall charge each licensee a licensure and renewal fee, as applicable. The licensure and renewal fee shall be calculated to cover the costs of administering this division. The licensure fee may vary depending upon the varying costs associated with administering the various regulatory requirements of this division as they relate to the nature and scope of the different licensure activities, including, but not limited to, the track and trace program required pursuant to Section 26170, but shall not exceed the reasonable regulatory costs to the licensing authority.
(b) The total fees assessed pursuant to this division shall be set at an amount that will fairly and proportionately generate sufficient total revenue to fully cover the total costs of administering this division.
(c) All license fees shall be set on a scaled basis by the licensing authority, dependent on the size of the business.
(d) The licensing authority shall deposit all fees collected in a fee account specific to that licensing authority, to be established in the Marijuana Control Fund. Moneys in the licensing authority fee accounts shall be used, upon appropriation by the Legislature, by the designated licensing authority for the administration of this division.

**26181.**
The State Water Resources Control Board, the Department of Fish and Wildlife, and other agencies may establish fees to cover the costs of their marijuana regulatory programs.

**Chapter 19. Annual Reports; Performance Audit**

**26190.**
Beginning on March 1, 2020, and on or before March 1 of each year thereafter, each licensing authority shall prepare and submit to the Legislature an annual report on the authority's activities concerning commercial marijuana activities and post the report on the authority's website. The report shall include, but not be limited to, the same type of information specified in Section 19353, and a detailed list of the petitions for regulatory relief or rulemaking changes.
received by the office from licensees requesting modifications of the enforcement of rules under this division.

26191.
(a) Commencing January 1, 2019, and by January 1 of each year thereafter, the Bureau of State Audits shall conduct a performance audit of the bureau's activities under this division, and shall report its findings to the bureau and the Legislature by July 1 of that same year. The report shall include, but not be limited to, the following:
   (1) The actual costs of the program.
   (2) The overall effectiveness of enforcement programs.
   (3) Any report submitted pursuant to this section shall be submitted in compliance with Section 9795 of the Government Code.
(b) The Legislature shall provide sufficient funds to the Bureau of State Audits to conduct the annual audit required by this section.

Chapter 20. Local Control

26200.
(a) Nothing in this division shall be interpreted to supersede or limit the authority of a local jurisdiction to adopt and enforce local ordinances to regulate businesses licensed under this division, including, but not limited to, local zoning and land use requirements, business license requirements, and requirements related to reducing exposure to second hand smoke, or to completely prohibit the establishment or operation of one or more types of businesses licensed under this division within the local jurisdiction.
(b) Nothing in this division shall be interpreted to require a licensing authority to undertake local law enforcement responsibilities, enforce local zoning requirements, or enforce local licensing requirements.
(c) A local jurisdiction shall notify the bureau upon revocation of any local license, permit, or authorization for a licensee to engage in commercial marijuana activity within the local jurisdiction. Within 10 days of notification, the bureau shall inform the relevant licensing authorities. Within 10 days of being so informed by the bureau, the relevant licensing authorities shall commence proceedings under Chapter 3 (commencing with section 26030) to determine whether a license issued to the licensee should be suspended or revoked.
(d) Notwithstanding paragraph (1) of subdivision (a) of Section 11362.3 of the Health and Safety Code, a local jurisdiction may allow for the smoking, vaporizing, and ingesting of marijuana or marijuana products on the premises of a retailer or microbusiness licensed under this division if:
   (1) Access to the area where marijuana consumption is allowed is restricted to persons 21 years of age and older;
   (2) Marijuana consumption is not visible from any public place or non-age restricted area; and
   (3) Sale or consumption of alcohol or tobacco is not allowed on the premises.
26201. Any standards, requirements, and regulations regarding health and safety, environmental protection, testing, security, food safety, and worker protections established by the state shall be the minimum standards for all licensees under this division statewide. A local jurisdiction may establish additional standards, requirements, and regulations.

26202. (a) A local jurisdiction may enforce this division and the regulations promulgated by the bureau or any licensing authority if delegated the power to do so by the bureau or a licensing authority.

(b) The bureau or any licensing authority shall implement the delegation of enforcement authority in subdivision (a) through a memorandum of understanding between the bureau or licensing authority and the local jurisdiction to which enforcement authority is to be delegated.

Chapter 21. Funding

216210 (a) The Medical Marijuana Regulation and Safety Act Fund established in Section 19351 of Chapter 3.5 of Division 8 is hereby renamed the Marijuana Control Fund.

(b) Upon the effective date of this section, whenever "Medical Marijuana Regulation and Safety Act Fund" appears in any statute, regulation, or contract, or in any other code, it shall be construed to refer to the Marijuana Control Fund.

26211. (a) Funds for the initial establishment and support of the regulatory activities under this division, including the public information program described in subdivision (c), and for the activities of the Board of Equalization under Part 14.5 (commencing with Section 34010) of Division 2 of the Revenue and Taxation Code until July 1, 2017, or until the 2017 Budget Act is enacted, whichever occurs later, shall be advanced from the General Fund and shall be repaid by the initial proceeds from fees collected pursuant to this division, any rule or regulation adopted pursuant to this division, or revenues collected from the tax imposed by Sections 34011 and 34012 of the Revenue and Taxation Code, by January 1, 2025.

(1) Funds advanced pursuant to this subdivision shall be appropriated to the bureau, which shall distribute the moneys to the appropriate licensing authorities, as necessary to implement the provisions of this division, and to the Board of Equalization, as necessary, to implement the provisions of Part 14.5 (commencing with Section 34010) of Division 2 of the Revenue and Taxation Code.

(2) Within 45 days of this section becoming operative:
   (A) The Director of Finance shall determine an amount of the initial advance from the General Fund to the Marijuana Control Fund that does not exceed thirty million dollars ($30,000,000); and
(B) There shall be advanced a sum of five million dollars ($5,000,000) from the General Fund to the Department of Health Care Services to provide for the public information program described in subdivision (c).

(b) Notwithstanding subdivision (a), the Legislature shall provide sufficient funds to the Marijuana Control Fund to support the activities of the bureau, state licensing authorities under this division, and the Board of Equalization to support its activities under Part 14.5 of Division 2 of the Revenue and Taxation Code. It is anticipated that this funding will be provided annually beginning on July 1, 2017.

(c) The State Department of Health Care Services shall establish and implement a public information program no later than September 1, 2017. This public information program shall, at a minimum, describe the provisions of the Control, Regulate, and Tax Adult Use of Marijuana Act of 2016, the scientific basis for restricting access of marijuana and marijuana products to persons under the age of 21 years, describe the penalties for providing access to marijuana and marijuana products to persons under the age of 21 years, provide information regarding the dangers of driving a motor vehicle, boat, vessel, aircraft, or other vehicle used for transportation while impaired from marijuana use, the potential harms of using marijuana while pregnant or breastfeeding, and the potential harms of overusing marijuana or marijuana products.

SECTION 6.2
Section 147.6 is added to the Labor Code, to read:

147.6.
(a) By March 1, 2018, the Division of Occupational Safety and Health shall convene an advisory committee to evaluate whether there is a need to develop industry-specific regulations related to the activities of licensees under Division 10 (commencing with Section 26000) of the Business and Professions Code, including but not limited to, whether specific requirements are needed to address exposure to second-hand marijuana smoke by employees at facilities where on-site consumption of marijuana is permitted under subdivision (d) of Section 26200 of the Business and Professions Code, and whether specific requirements are needed to address the potential risks of combustion, inhalation, armed robberies or repetitive strain injuries.

(b) By October 1, 2018, the advisory committee shall present to the board its findings and recommendations /or consideration by the board. By October 1, 2018, the board shall render a decision regarding the adoption of industry-specific regulations pursuant to this section.

Section 13276 of the Water Code is amended of read:

13276.
(a) The multiagency task force, the Department of Fish and Wildlife and State Water Resources Control Board pilot project to address the Environmental Impacts of Cannabis Cultivation,
assigned to respond to the damages caused by marijuana cultivation on public and private lands in California, shall continue its enforcement efforts on a permanent basis and expand them to a statewide level to ensure the reduction of adverse impacts of marijuana cultivation on water quality and on fish and wildlife throughout the state.

(b) Each regional board shall, and the State Water Resources Control Board may, address discharges of waste resulting from medical marijuana cultivation and commercial marijuana cultivation under Division 10 of the Business and Profession Code and associated activities, including by adopting a general permit, establishing waste discharge requirements, or taking action pursuant to Section 13269. In addressing these discharges, each regional board shall include conditions to address items that include, but are not limited to, all of the following:

1. Site development and maintenance, erosion control, and drainage features.
2. Stream crossing installation and maintenance.
3. Riparian and wetland protection and management.
4. Soil disposal.
5. Water storage and use.
6. Irrigation runoff.
7. Fertilizers and soil.
8. Pesticides and herbicides.
12. Cleanup, restoration, and mitigation.

SECTION 7. MARIJUANA TAX.

Section 7.1 Part 14.5 (Commencing with Section 34010) is added to Division 2 of the Revenue and Taxation Code, to read:

Part 14.5. Marijuana Tax 34010.

For purposes of this part:
(a) "Board" shall mean the Board of Equalization or its successor agency.
(b) "Bureau" shall mean the Bureau of Marijuana Control within the Department of Consumer Affairs.
(c) "Tax Fund" means the California Marijuana Tax Fund created by Section 34018.
(d) "Marijuana" shall have the same meaning as set forth in Section 11018 of the Health and Safety Code and shall also mean medical cannabis.
(e) "Marijuana products" shall have the same meaning as set forth in Section 11018.1 of the Health and Safety Code and shall also mean medical concentrates and medical cannabis products.
(f) "Marijuana flowers" shall mean the dried flowers of the marijuana plant as defined by the Board.
(g) "Marijuana leaves" shall mean all parts of the marijuana plant other than marijuana flowers that are sold or consumed.

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(h) "Gross receipts" shall have the same meaning as set forth in Section 6012.
(i) "Retail sale" shall have the same meaning as set forth in Section 600.7.
(j) "Person" shall have the same meaning as set for in section 6005.
(k) "Microbusiness" shall have the same meaning as set for in Section 26070(a) (3) of the Business and Professions Code.
(l) "Nonprofit" shall have the same meaning as set for in Section 26070.5 of the Business and Professions Code.

34011.
(a) Effective January 1, 2018, a marijuana excise tax shall be imposed upon purchasers of marijuana or marijuana products sold in this state at the rate of fifteen percent fifteen percent of the gross receipts of any retail sale by a dispensary or other person required to be licensed pursuant to Chapter 3.5 (commencing with Section 19300) of Division 8 of the Business and Professions Code or a retailer, microbusiness, nonprofit, or other person required to be licensed pursuant to Division 10 (commencing with Section 26000) of the Business and Professions Code to sell marijuana and marijuana products directly to a purchaser.
(b) Except as otherwise provided by regulation, the tax levied under this section shall apply to the full price, if non-itemized, of any transaction involving both marijuana or marijuana products and any other otherwise distinct and identifiable goods or services, and the price of any goods or services, if a reduction in the price of marijuana or marijuana products is contingent on purchase of those goods or services.
(c) A dispensary or other person required to be licensed pursuant to Chapter 3.5 (commencing with Section 19300) of Division 8 of the Business and Professions Code or a retailer, microbusiness, nonprofit, or other person required to be licensed pursuant to Division 10 (commencing with Section 26000) of the Business and Professions Code shall be responsible for collecting this tax and remitting it to the board in accordance with rules and procedures established under law and any regulations adopted by the board.
(d) The excise tax imposed by this section shall be in addition to the sales and use tax imposed by the state and local governments.
(e) Gross receipts from the sale of marijuana or marijuana products for purposes of assessing the sales and use tax under Part 1 of this division shall include the tax levied pursuant to this section.
(f) No marijuana or marijuana products may be sold to a purchaser unless the excise tax required by law has been paid by the purchaser at the time of sale.
(g) The sales and use tax imposed by Part 1 (commencing with Section 6001) of this division shall not apply to retail sales of medical cannabis, medical cannabis concentrate, edible medical cannabis products or topical cannabis as those terms are defined in Chapter 3.5 (commencing with Section 19300) of Division 8 of the Business and Professions Code when a qualified patient (or primary caregiver for a qualified patient) provides his or her card issued under Section 11362. 71 of the Health and Safety Code and a valid government-issued identification card.
34012.

(a) Effective January 1, 2018, there is hereby imposed a cultivation tax on all harvested marijuana that enters the commercial market upon all persons required to be licensed to cultivate marijuana pursuant to Chapter 3.5 (commencing with Section 19300) of Division 8 of the Business and Professions Code or Division 10 (commencing with Section 26000) of the Business and Professions Code. The tax shall be due after the marijuana is harvested.

(1) The tax for marijuana flowers shall be nine dollars and twenty-five cents ($9.25) per dry weight ounce.

(2) The tax for marijuana leaves shall be set at two dollars and seventy-five cents ($2.75) per dry-weight ounce.

(b) The board may adjust the tax rate for marijuana leaves annually to reflect fluctuations in the relative price of marijuana flowers to marijuana leaves.

(c) The board may from time to time establish other categories of harvested marijuana, categories for unprocessed or frozen marijuana or immature plants, or marijuana that is shipped directly to manufacturers. These categories shall be taxed at their relative value compared with marijuana flowers.

(d) The board may prescribe by regulation a method and manner for payment of the cultivation tax that utilizes tax stamps or state-issued product bags that indicate that all required tax has been paid on the product to which the tax stamp is affixed or in which the marijuana is packaged.

(e) The tax stamps and product bags shall be of the designs, specifications and denominations as may be prescribed by the board and may be purchased by any licensee under Chapter 3.5 (commencing with Section 19300) of Division 8 of the Business and Professions Code or under Division 10 (commencing with Section 26000) of the Business and Professions Code.

(f) Subsequent to the establishment of a tax stamp program, the board may by regulation provide that no marijuana may be removed from a licensed cultivation facility or transported on a public highway unless in a state-issued product bag bearing a tax stamp in the proper denomination.

(g) The tax stamps and product bags shall be capable of being read by a scanning or similar device and must be traceable utilizing the track and trace system pursuant to Section 26170 of the Business and Professions Code.

(h) Persons required to be licensed to cultivate marijuana pursuant to Chapter 3.5 (commencing with Section 19300) of Division 8 of the Business and Professions Code or Division 10 (commencing with Section 26000) of the Business and Professions Code shall be responsible for payment of the tax pursuant to regulations adopted by the board. No marijuana may be sold unless the tax has been paid as provided in this part.

(i) All marijuana removed from a cultivator’s premises, except for plant waste, shall be presumed to be sold and thereby taxable under this section.

(j) The tax imposed by this section shall be imposed on all marijuana cultivated in the state pursuant to rules and regulations promulgated by the board, but shall not apply to marijuana cultivated for personal use under Section 11362.1 of the Health and Safety Code or
cultivated by a qualified patient or primary caregiver in accordance with the Compassionate Use Act.

(k) Beginning January 1, 2020, the rates set forth in subdivisions (a), (b), and (c) shall be adjusted by the board annually thereafter for inflation.

34013.
(a) The board shall administer and collect the taxes imposed by this part pursuant to the Fee Collection Procedures Law (Part 30 (commencing with Section 55001) of Division 2 of the Revenue and Taxation Code). For purposes of this part, the references in the Fee Collection Procedures Law to "fee" shall include the tax imposed by this part, and references to "fee payer" shall include a person required to pay or collect the tax imposed by this part.

(b) The board may prescribe, adopt, and enforce regulations relating to the administration and enforcement of this part, including, but not limited to, collections, reporting, refunds, and appeals.

(c) The board shall adopt necessary rules and regulations to administer the taxes in this part. Such rules and regulations may include methods or procedures to tag marijuana or marijuana products, or the packages thereof, to designate prior tax payment.

(d) The board may prescribe, adopt, and enforce any emergency regulations as necessary to implement, administer and enforce its duties under this division. Any emergency regulation prescribed, adopted, or enforced pursuant to this section shall be adopted in accordance with Chapter 3.5 (commencing with section 1340) of Part 1 of Division 3 of Title 2 of the Government Code, and, for purposes of that chapter, including Section 11349.6 of the Government Code, the adoption of the regulation is an emergency and shall be considered by the Office of Administrative Law as necessary for the immediate preservation of the public peace, health and safety, and general welfare. Notwithstanding any other provision of law, the emergency regulations adopted by the board may remain in effect for two years from adoption.

(e) Any person who fails to pay the taxes imposed under this part shall, in addition to owing the taxes not paid, be subject to a penalty of at least one-half the amount of the taxes not paid, and shall be subject to having its license revoked pursuant to Section 26031 of the Business and Professions Code or pursuant to Chapter 3.5 (commencing with Section 19300) of Division 8 of the Business and Professions Code.

(f) The board may bring such legal actions as are necessary to collect any deficiency in the tax required to be paid, and, upon the board's request, the Attorney General shall bring the actions.

34014.
(a) All persons required to be licensed involved in the cultivation and retail sale of marijuana or marijuana products must obtain a separate permit from the board pursuant to regulations adopted by the board. No fee shall be charged to any person for issuance of the permit. Any person required to obtain a permit who engages in business as a cultivator, dispensary, retailer, microbusiness or nonprofit pursuant to Chapter 3.5 (commencing with Section
19300) of Division 8 of the Business and Professions Code or Division 10 (commencing with Section 26000) of the Business and Professions Code without a permit or after a permit has been canceled, suspended, or revoked, and each officer of any corporation which so engages in business, is guilty of a misdemeanor.

(b) The board may require every licensed dispensary, cultivator, microbusiness, nonprofit, or other person required to be licensed, to provide security to cover the liability for taxes imposed by state law on marijuana produced or received by the cultivator, microbusiness, nonprofit, or other person required to be licensed in accordance with procedures to be established by the board. Notwithstanding anything herein to the contrary, the board may waive any security requirement it imposes for good cause, as determined by the board. "Good cause" includes, but is not limited to, the inability of a cultivator, microbusiness, nonprofit, or other person required to be licensed to obtain security due to a lack of service providers or the policies of service Providers that prohibit service to a marijuana business. A person may not commence or continue any business or operation relating to marijuana cultivation until any surety required by the board with respect to the business or operation have been properly prepared, executed and submitted under this part.

(c) In fixing the amount of any security required by the board, the board shall give consideration to the financial hardship that may be imposed on licensees as a result of any shortage of available surety providers.

34015.

(a) The marijuana excise tax and cultivation tax imposed by this part is due and payable to the board quarterly on or before the last day of the month following each quarterly period of three months. On or before the last day of the month following each quarterly period, a return for the preceding quarterly period shall be filed with the board by each person required to be licensed for cultivation or retail sale under Chapter 3.5 (commencing with Section 19300) of Division 8 or Division 10 (commencing with Section 26000) of the Business and Professions Code using Electronic media. Returns shall be authenticated in a form or pursuant to methods as may be prescribed by the board. If the cultivation tax is paid by stamp pursuant to Section (d) 34012 the board may by regulation determine when and how the tax shall be paid.

(b) The board may require every person engaged in the cultivation, distribution or retail sale of marijuana and marijuana products required to be licensed pursuant to Chapter 3.5(commencing with Section 19300) of Division 8 or Division 10 (commencing with Section 2600) of the Business and Professions Code to file, on or before the 25th day of each month, a report using electronic media respecting the person's inventory, purchases, and sales during the preceding month and any other information as the board may require to carry out the purposes of this part. Reports shall be authenticated in a form or pursuant to methods as may be prescribed by the board.

34016.
Comprehensive
Adult Use of Marijuana Act – 2016
Proposition 64

(a) Any peace officer, or board employee granted limited peace officer status pursuant to paragraph (6) of subdivision (a) of Section 830.11 of the Penal Code, upon presenting appropriate credentials, is authorized to enter any place as described in paragraph (3) and to conduct inspections in accordance with the following paragraphs, inclusive.

(1) Inspections shall be performed in a reasonable manner and at times that are reasonable under the circumstances, taking into consideration the normal business hours of the place to be entered.

(2) Inspections may be at any place at which marijuana or marijuana products are sold to purchasers, cultivated, or stored, or at any site where evidence of activities involving evasion of tax may be discovered.

(3) Inspections shall be requested or conducted no more than once in a 24-hour period.

(b) Any person who fails or refuses to allow an inspection shall be subject to a misdemeanor. Each offense shall be punished by a fine not to exceed five thousand dollars ($5,000), or imprisonment not exceeding one year in a county jail, or both the fine and imprisonment. The court shall order any fines assessed be deposited in the California Marijuana Tax Fund.

(c) Upon discovery by the board or a law enforcement agency that a licensee or any other person possesses, stores, owns, or has made a retail sale of marijuana or marijuana products, without evidence of tax payment or not contained in secure packaging, the board or the law enforcement agency shall be authorized to seize the marijuana or marijuana products. Any marijuana or marijuana products seized by a law enforcement agency or the board shall within seven days be deemed forfeited and the board shall comply with the procedures set forth in Sections 30436 through 30449, inclusive.

(d) Any person who renders a false or fraudulent report is guilty of a misdemeanor and subject to a fine not to exceed one thousand dollars ($1,000) for each offense.

(e) Any violation of any provisions of this part, except as otherwise provided, is a misdemeanor and is punishable as such.

(f) All moneys remitted to the board under this part shall be credited to the California Marijuana Tax Fund.

34017.
The Legislative Analyst's Office shall submit a report to the Legislature by January 1, 2020, with recommendations to the Legislature for adjustments to the tax rate to achieve the goals of undercutting illicit market prices and discouraging use by persons younger than 21 years of age while ensuring sufficient revenues are generated for the programs identified in Section 34019.

34018.

(a) The California Marijuana Tax Fund is hereby created in the State Treasury. The Tax Fund shall consist of all taxes, interest, penalties, and other amounts collected and paid to the board pursuant to this part, less payment of refunds.

(b) Notwithstanding any other law, the California Marijuana Tax Fund is a special trust fund established solely to carry out the purposes of the Control, Regulate and Tax Adult Use of Marijuana Act and all revenues deposited into the Tax Fund, together with interest or

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dividends earned by the fund, are hereby continuously appropriated for the purposes of the Control, Regulate and Tax Adult Use of Marijuana Act without regard to fiscal year and shall be expended only in accordance with the provisions of this part and its purposes.

c) Notwithstanding any other law, the taxes imposed by this part and the revenue derived therefrom, including investment interest, shall not be considered to be part of the General Fund, as that term is used in Chapter 1 (commencing with section 16300) of Part 2 of Division 4 of the Government Code, shall not be considered General Fund revenue for purposes of Section 8 of Article XVI of the California Constitution and its implementing statutes, and shall not be considered "moneys" for purposes of subdivisions (a) and (b) of Section 8 of Article XVI of the California Constitution and its implementing statutes.

34019.

(a) Beginning with fiscal year 2017-2018 the Department of Finance shall estimate revenues to be received pursuant to sections 34011 and 34012 and provide those estimates to the Controller no later than June 15 of each year. The Controller shall use these estimates when disbursing funds pursuant to this section. Before any funds are disbursed pursuant to subdivisions (b), (c), (d), and (e) of this section the Controller shall disburse from the Tax Fund to the appropriate account, without regard to fiscal year, the following:

1) Reasonable costs incurred by the board for administering and collecting the taxes imposed by this part; provided, however; such costs shall not exceed four percent of tax revenues received.

2) Reasonable costs incurred by the Bureau, the Department of Consumer Affairs, the Department of Food and Agriculture, and the Department of Public Health for implementing, administering, and enforcing Chapter 3.5 (commencing with Section 19300) of Division 8 of the Business and Professions Code and Division 10 (commencing with Section 26000) of the Business and Professions Code to the extent those costs are not reimbursed pursuant to Section 26180 of the Business and Professions Code or pursuant to Chapter 3.5 (commencing with Section 19300) of Division 8 of the Business and Professions Code. This paragraph shall remain operative through fiscal year 2022-2023.

3) Reasonable costs incurred by the Department of Fish and Wildlife, the State Water Resources Control Board, and the Department of Pesticide Regulation for carrying out their respective duties under Chapter 3.5 (commencing with Section 19300) of Division 8 of the Business and Professions Code or Division 10 (commencing with Section 26000) of the Business and Professions Code to the extent those costs are not otherwise reimbursed.

4) Reasonable costs incurred by the Controller for performing duties imposed by the Control, Regulate and Tax Adult Use of Marijuana Act, including the audit required by Section 34020.

5) Reasonable costs incurred by the State Auditor for conducting the performance audit pursuant to Section 26191 of the Business and Professions Code.
(6) Reasonable costs incurred by the Legislative Analyst’s Office for performing duties imposed by Section 34017.

(7) Sufficient funds to reimburse the Division of Labor Standards Enforcement and Occupational Safety and Health within the Department of Industrial Relations and the Employment Development Department for the costs of applying and enforcing state labor laws to licensees under Chapter 3.5 (commencing with Section 19300) of Division 8 of the Business and Professions Code and Division 10 (commencing with Section 26000) of the Business and Professions Code.

(b) The Controller shall next disburse the sum of ten million dollars ($10,000,000) to a public university or universities in California annually beginning with fiscal year 2018-2019 until fiscal year 2028-2029 to research and evaluate the implementation and effect of the Control, Regulate and Tax Adult Use of Marijuana Act, and shall, if appropriate, make recommendations to the Legislature and Governor regarding possible amendments to the Control, Regulate and Tax Adult Use of Marijuana Act. The recipients of these funds shall publish reports on their findings at a minimum of every two years and shall make the reports available to the public. The Bureau shall select the universities to be funded. The research funded pursuant to this subdivision shall include but not necessarily be limited to:

(1) Impacts on public health, including health costs associated with marijuana use, as well as whether marijuana use is associated with an increase or decrease in use of alcohol or other drugs.

(2) The impact of treatment for maladaptive marijuana use and the effectiveness of different treatment programs.

(3) Public safety issues related to marijuana use, including studying the effectiveness of the packaging and labeling requirements and advertising and marketing restrictions contained in the Act at preventing underage access to and use of marijuana and marijuana products, and studying the health-related effects among users of varying potency levels of marijuana and marijuana products.

(4) Marijuana use rates, maladaptive use rates for adults and youth, and diagnosis rates of marijuana-related substance use disorders.

(5) Marijuana market prices, illicit market prices, tax structures and rates, including an evaluation of how to best tax marijuana based on potency, and the structure and function of licensed marijuana businesses.

(6) Whether additional protections are needed to prevent unlawful monopolies or anti-competitive behavior reform occurring in the nonmedical marijuana industry and, if so, recommendations as to the most effective measures for preventing such behavior.

(7) The economic impacts in the private and public sectors, including but not necessarily limited to, job creation, workplace safety, revenues, taxes generated for state and local budgets, and criminal justice impacts, including, but not necessarily limited to, impacts on law enforcement and public resources, short and long term consequences of involvement in the criminal justice system, and state and local government agency administrative costs and revenue.
(8) Whether the regulatory agencies tasked with implementing and enforcing the Control, Regulate and Tax Adult Use of Marijuana Act are doing so consistent with the purposes of the Act, and whether different agencies might do so more effectively.

(9) Environmental issues related to marijuana production and the criminal prohibition of marijuana production.

(10) The geographic location, structure, and function of licensed marijuana businesses, and demographic data, including race, ethnicity, and gender, of license holders.

(11) The outcomes achieved by the changes in criminal penalties made under the Control, Regulate, and Tax Adult Use of Marijuana Act for marijuana-related offenses, and the outcomes of the juvenile justice system, in particular, probation-based treatments and the frequency of up-charging illegal possession of marijuana or marijuana products to a more serious offense.

c) The Controller shall next disburse the sum of three million dollars ($3,000,000) annually to the Department of the California Highway Patrol beginning fiscal year 2018-2019 until fiscal year 2022-2023 to establish and adopt protocols to determine whether a driver is operating a vehicle while impaired, including impairment by the use of marijuana or marijuana products, and to establish and adopt protocols setting forth best practices to assist law enforcement agencies. The department may hire personnel to establish the protocols specified in this subdivision. In addition, the department may make grants to public and private research institutions for the purpose of developing technology for determining when a driver is operating a vehicle while impaired, including impairment by the use of marijuana or marijuana products.

d) The Controller shall next disburse the sum of ten million dollars ($10,000,000) beginning fiscal year 2018-2019 and increasing ten million dollars ($10,000,000) each fiscal year thereafter until fiscal year 2022-2023, at which time the disbursement shall be fifty million dollars ($50,000,000) each year thereafter, to the Governor’s Office of Business and Economic Development, in consultation with the Labor and Workforce Development Agency and the Department of Social Services, to administer a Community Reinvestments grants program to local health departments and at least fifty-percent to qualified community-based nonprofit organizations to support job placement, mental health treatment, substance use disorder treatment, system navigation services, legal services to address barriers to reentry, and linkages to medical care for communities disproportionately affected by past federal and state drug policies. The Office shall solicit input from community-based job skills, job placement, and legal service providers with relevant expertise as to the administration of the grants program. In addition, the Office shall periodically evaluate the programs it is funding to determine the effectiveness of the programs, shall not spend more than four percent (4%) for administrative costs related to implementation, evaluation and oversight of the programs, and shall award grants annually, beginning no later than January 1, 2020.

e) The Controller shall next disburse the sum of two million dollars ($2,000,000) annually to the University of California San Diego Center for Medicinal Cannabis Research to further the objectives of the Center including the enhanced understanding of the efficacy and adverse effects of marijuana as a pharmacological agent.
(f) By July 15 of each fiscal year beginning in fiscal year 2018-2019, the Controller shall, after disbursing funds pursuant to subdivisions (a), (b), (c), (d), and (e), disburse funds deposited in the Tax Fund during the prior fiscal year into sub-trust accounts, which are hereby created, as follows:

(1) Sixty percent shall be deposited in the Youth Education, Prevention, Early Intervention and Treatment Account, and disbursed by the Controller to the Department of Health Care Services for programs for youth that are designed to educate about and to prevent substance use disorders and to prevent harm from substance use. The Department of Health Care services shall enter into inter-agency agreements with the Department of Public Health and the Department of Education to implement and administer these programs. The programs shall emphasize accurate education, effective prevention, early intervention, school retention, and timely treatment services for youth, their families and caregivers. The programs may include, but are not limited to, the following components:

(A) Prevention and early intervention services including outreach, risk survey and education to youth, families, caregivers, schools, primary care health providers, behavioral health and substance use disorder service providers, community and faith-based organizations, foster care providers, juvenile and family courts, and others to recognize and reduce risks related to substance use, and the early signs of problematic use and of substance use disorders.

(B) Grants to schools to develop and support Student Assistance Programs, or other similar programs, designed to prevent and reduce substance use, and improve school retention and performance, by supporting students who are at risk of dropping out of school and promoting alternatives to suspension or expulsion that focus on school retention, remediation, and professional care. Schools with higher than average dropout rates should be prioritized for grants.

(C) Grants to programs for outreach, education and treatment for homeless youth and out of school youth with substance use disorders.

(D) Access and linkage to care provided by county behavioral health programs for youth, and their families and caregivers, who have a substance use disorder or who are at risk for developing a substance use disorder.

(E) Youth-focused substance use disorder treatment programs that are culturally and gender competent, trauma-informed, evidence-based and provide a continuum of care that includes, screening and assessment (substance use disorder as well as mental health), early intervention, active treatment, family involvement, case management, overdose prevention, prevention of communicable diseases related to substance use, relapse management for substance use and other co-occurring behavioral health disorders, vocational services, literacy services, parenting classes, family therapy and counseling services, medication-assisted treatments, psychiatric medication and psychotherapy. When indicated, referrals must be made to other providers.

(F) To the extent permitted by law and where indicated, interventions shall utilize a two-generation approach to addressing substance use disorders with the capacity to treat...
youth and adults together. This would include supporting the development of family-based interventions that address substance use disorders and related problems within the context of families, including parents, foster parents, caregivers and all their children.

(G) Programs to assist individuals, as well as families and friends of drug using young people, to reduce the stigma associated with substance use including being diagnosed with a substance use disorder or seeking substance use disorder services. This includes peer-run outreach and education to reduce stigma, anti-stigma campaigns, and community recovery networks.

(H) Workforce training and wage structures that increase the hiring pool of behavioral health staff with substance use disorder prevention and treatment expertise. Provide ongoing education and coaching that increases substance use treatment providers' core competencies and trains providers on promising and evidenced-based practices.

(I) Construction of community-based youth treatment facilities.

(J) The departments may contract with each county behavioral health program for the provision of services.

(K) Fund shall be allocated to counties based on demonstrated need, including the number of youth in the county, the prevalence of substance use disorders among adults, and confirmed through statistical data, validated assessments or submitted reports prepared by the applicable county to demonstrate and validate need.

(L) The departments shall periodically evaluate the programs they are funding to determine the effectiveness of the programs.

(M) The departments may use up to 4 percent of the moneys allocated to the Youth Education, Prevention, Early Intervention and Treatment Account for administrative costs related to implementation, evaluation and oversight of the programs.

(N) If the Department of Finance ever determines that funding pursuant to marijuana taxation exceeds demand for youth prevention and treatment services in the state, the departments shall provide a plan to the Department of Finance to provide treatment services to adults as well as youth using these funds.

(O) The departments shall solicit input from volunteer health organizations, physicians who treat addiction, treatment researchers, family therapy and counseling providers, and professional education associations with relevant expertise as to the administration of any grants made pursuant to this paragraph.

(2) Twenty percent shall be deposited in the Environmental Restoration and Protection Account, and disbursed by the Controller as follows:

(A) To the Department of Fish and Wildlife and the Department of Parks and Recreation for the cleanup, remediation, and restoration of environmental damage in watersheds affected by marijuana cultivation and related activities including, but not limited to, damage that occurred prior to enactment of this part, and to support local partnerships for this purpose. The Department of Fish and Wildlife and the Department of Parks and Recreation may distribute a portion of the funds they receive
from the Environmental Restoration and Protection Account through grants for purposes specified in this paragraph.

(B) To the Department of Fish and Wildlife and the Department of Parks and Recreation for the stewardship and operation of state-owned wildlife habitat areas and state park units in a manner that discourages and prevents the illegal cultivation, production, sale and use of marijuana and marijuana products on public lands, and to facilitate the investigation, enforcement and prosecution of illegal cultivation, production, sale, and use of marijuana or marijuana products on public lands.

(C) To the Department of Fish and Wildlife to assist in funding the watershed enforcement program and multiagency taskforce established pursuant to subdivisions (b) and (c) of Section 12029 of the Fish and Game Code to facilitate the investigation, enforcement, and prosecution of these offenses and to ensure the reduction of adverse impacts of marijuana cultivation, production, sale, and use on fish and wildlife habitats throughout the state.

(D) For purposes of this paragraph, the Secretary of the Natural Resources Agency shall determine the allocation of revenues between the departments. During the first five years of implementation, first consideration should be given to funding purposes specified in subparagraph (a).

(E) Funds allocated pursuant to this paragraph shall be used to increase and enhance activities described in subparagraphs (a), (b), and (c), and not replace allocation of other funding for these purposes. Accordingly, annual General Fund appropriations to the Department of Fish and Wildlife and the Department of Parks and Recreation shall not be reduced below the levels provided in the Budget Act of 2014 (Chapter 25 of Statutes of 2014).

(3) Twenty percent shall be deposited into the State and Local Government Law Enforcement Account and disbursed by the Controller as follows:

(A) To the Department of the California Highway Patrol for conducting training programs for detecting, testing and enforcing laws against driving under the influence of alcohol and other drugs, including driving under the influence of marijuana. The Department may hire personnel to conduct the training programs specified in this subparagraph.

(B) To the Department of the California Highway Patrol to fund internal California Highway Patrol programs and grants to qualified nonprofit organizations and local governments for education, prevention and enforcement of laws related to driving under the influence of alcohol and other drugs, including marijuana; programs that help enforce traffic laws, educate the public in traffic safety, provide varied and effective means of reducing fatalities, injuries and economic losses from collisions; and for the purchase of equipment related to enforcement of laws related to driving under the influence of alcohol and other drugs, including marijuana.

(C) To the Board of State and Community Corrections for making grants to local governments to assist with law enforcement, fire protection, or other local programs addressing public health and safety associated with the implementation of the Control, Regulate and Tax Adult Use of Marijuana Act. The Board shall not make any
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### Comprehensive

**Adult Use of Marijuana Act – 2016**

**Proposition 64**

grants to local governments which have banned the cultivation, including personal cultivation under Section 11362.2 (b)(3) of the Health and Safety Code, or retail sale of marijuana or marijuana products pursuant to Section 26200 of the Business and Professions Code or as otherwise provided by law.

(D) For purposes of this paragraph the Department of Finance shall determine the allocation of revenues between the agencies; provided, however, beginning in fiscal year 2022-2023 the amount allocated pursuant to subparagraph (A) shall not be less than ten million dollars ($10,000,000) annually and the amount allocated pursuant to subparagraph (B) shall not be less than forty million dollars ($40,000,000) annually. In determining the amount to be allocated before fiscal year 2022-2023 pursuant to this paragraph, the Department of Finance shall give initial priority to subparagraph (A).

(g) Funds allocated pursuant to subdivision (f) shall be used to increase the funding of programs and purposes identified and shall not be used to replace allocation of other funding for these purposes.

(h) Effective July 1, 2028, the Legislature may amend this section by majority vote to further the purposes of the Control, Regulate and Tax Adult Use of Marijuana Act, including allocating funds to programs other than those specified in subdivisions (d) and (f) of this section. Any revisions pursuant to this subdivision shall not result in a reduction of funds to accounts established pursuant to subdivisions (d) and (f) in any subsequent year from the amount allocated to each account in fiscal year 2027-2028. Prior to July 1, 2028, the Legislature may not change the allocations to programs specified in subdivisions (d) and (f) of this section.

34020.

The Controller shall periodically audit the Tax Fund to ensure that those funds are used and accounted for in a manner consistent with this part and as otherwise required by law.

34021.

The taxes imposed by this Part shall be in addition to any other tax imposed by a city, county, or city and county.

34021.5

(a)

(1) A county may impose a tax on the privilege of cultivating, manufacturing, producing, processing, preparing, storing, providing, donating, selling, or distributing marijuana or marijuana products by a licensee operating under Chapter 3.5 (commencing with Section 19300) of Division 8 or Division 10 (commencing with Section 26000) of the Business and Professions Code.

(2) The board of supervisors shall specify in the ordinance proposing the tax the activities subject to the tax, the applicable rate or rates, the method of apportionment, if necessary, and the manner of collection of the tax. The tax may be imposed for general governmental purposes or for purposes specified in the ordinance by the board of supervisors.

Revised 03/06/2017

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Page 58
(3) In addition to any other method of collection authorized by law, the board of supervisors may provide for the collection of the tax imposed pursuant to this section in the same manner, and subject to the same penalties and priority of lien, as other charges and taxes fixed and collected by the county. A tax imposed pursuant to this section is a tax and not a fee or special assessment. The board of supervisors shall specify whether the tax applies throughout the entire county or within the unincorporated area of the county.

(4) The tax authorized by this section may be imposed upon any or all of the activities set forth in paragraph (1), as specified in the ordinance, regardless of whether the activity is undertaken individually, collectively, or cooperatively, and regardless of whether the activity is for compensation or gratuitous, as determined by the board of supervisors.

(b) A tax imposed pursuant to this section shall be subject to applicable voter approval requirements imposed by law.

(c) This section is declaratory of existing law and does not limit or prohibit the levy or collection of any other fee, charge, or tax, or a license or service fee or charge upon, or related to, the activities set forth in subdivision (a) as otherwise provided by law. This section shall not be construed as a limitation upon the taxing authority of a county as provided by law.

(d) This section shall not be construed to authorize a county to impose a sales or use tax in addition to the sales and use tax imposed under an ordinance conforming to the provisions of Sections 7202 and 7203 of the Revenue and Taxation Code.

SECTION 8. CRIMINAL OFFENSES, RECORDS, AND RESENTENCING.

Section 8.1. Section 11357 of the Health and Safety Code is amended to read:

11357. Possession

(a) Except as authorized by law, possession of not more than 28.5 grams of marijuana, or not more than four grams of concentrated cannabis, or both, shall be punished or adjudicated as follows:

(1) Persons under the age of 18 shall be guilty of an infraction and shall be required to:

   (A) Upon a finding that first offense has been committed, complete four hours of drug education or counseling and up to 10 hours of community service over a period not to exceed 60 days.

   (B) Upon a finding that a second offense or subsequent offense has been committed, complete six hours of drug education or counseling and up to 20 hours of community service over a period not to exceed 90 days.

(2) Persons at least 18 years of age but less than 21 years of age shall be guilty of an infraction and punishable by fine of not more than one hundred dollars ($100).

(b) Except as authorized by law, possession of more than 28.5 grams of marijuana, or more than four grams of concentrated cannabis, shall be punished as follows:
(1) Persons under the age of 18 who possess more than 28.5 grams of marijuana or more than four grams of concentrated cannabis, or both, shall be guilty of an infraction and shall be required to:
(A) Upon a finding that first offense has been committed, complete eight hours of drug education or counseling and up to 40 hours of community service over a period not to exceed 90 days.
(B) Upon a finding that a second or subsequent offense has been committed, complete 10 hours of drug education or counseling and up to .60 hours of community service over a period not to exceed 120 days.

(2) Persons 18 years of age or over who possess more than 28.5 grams of marijuana, or more than four grams of concentrated cannabis, or both, shall be punished by imprisonment in a county jail for a period of not more than six months or by a fine of not more than five hundred dollars ($500), or by both such fine and imprisonment.

(c) Except as authorized by law, every person 18 years of age or over who possesses not more than 28.5 grams of marijuana, or not more than four grams of concentrated cannabis, upon the grounds of, or within, any school providing instruction in kindergarten or any of grades 1 through 12 during hours the school is open for classes or school-related programs is guilty of a misdemeanor and shall be punished as follows:
(1) A fine of not more than two hundred fifty dollars ($250), upon a finding that a first offense has been committed.
(2) A fine of not more than five hundred dollars ($500), or by imprisonment in a county jail for a period of not more than 10 days, or both, upon a finding that a second or subsequent offense has been committed.

(d) Except as authorized by law, every person under the age of 18 who possesses not more than 28.5 grams of marijuana, or not more than four grams of concentrated cannabis, upon the grounds of, or within, any school providing instruction in kindergarten or any of grades 1 through 12 during hours the school is open for classes or school-related programs is guilty of an infraction and shall be punished in the same manner provided in paragraph (1) of subdivision (b) of this section.

SECTION 8.2.
Section 11358 of the Health and Safety Code is amended to read:

11358. Planting, harvesting, or processing
Every person who plants, cultivates, harvests, dries, or processes marijuana plants, or any part thereof, except as otherwise provided by law, shall be punished as follows:
(a) Every person under the age of 18 who plants, cultivates, harvests, dries, or processes any marijuana plants shall be punished in the same manner provided in paragraph (1) of subdivision (b) of section 11357.
(b) Every person at least 18 years of age but less than 21 years of age who plants, cultivates, harvests, dries, or processes not more than six living marijuana plants shall be guilty of an infraction and a fine of not more than one hundred dollars ($100).

(c) Every person 18 years of age or over who plants, cultivates, harvests, dries, or processes more than six living marijuana plants shall be punished by imprisonment in a county jail for a period of not more than six months or by afﬁne of not more than ﬁve hundred dollars ($500), or by both such ﬁne and imprisonment.

(d) Notwithstanding subdivision (c), a person 18 years of age or over who plants, cultivates, harvests, dries, or processes more than six living marijuana plants, or any part thereof, except as otherwise provided by law, may be punished by imprisonment pursuant to subdivision (h) of Section 1170 of the Penal Code if:

1. The person has one or more prior convictions for an offense speciﬁed in clause (iv) of subparagraph (C) of paragraph (2) of subdivision (e) of Section 667 of the Penal Code or for an offense requiring registration pursuant to subdivision (c) of Section 290 of the Penal Code;

2. The person has two or more prior convictions under subdivision (c); or

3. The offense resulted in any of the following:
   (A) Violation of Section 1052 of the Water Code relating to illegal diversion of water;
   (B) Violation of Section 13260, 13264, 13272, or 13387 of the Water Code relating to discharge of waste;
   (C) Violation of Fish and Game Code Section 5650 or Section 5652 of the Fish and Game Code relating to waters of the state;
   (D) Violation of Section 1602 of the Fish and Game Code relating to rivers, streams and lakes;
   (E) Violation of Section 3 74.8 of the Penal Code relating to hazardous substances or Sections 25189.5, 25189.6, or 25189. 7 of the Health and Safety Code relating to hazardous waste;
   (F) Violation of Section 2080 of the Fish and Game Code relating to endangered and threatened species or Section 3513 of the Fish and Game Code relating to the Migratory Bird Treaty Act; or
   (G) Intentionally or with gross negligence causing substantial environmental harm to public lands or other public resources.

SECTION 8.3
Section 11359 of the Health and Safety Code is amended to read:

11359. Possession for sale
Every person who possesses for sale any marijuana, except as otherwise provided by law, shall be punished as follows:
(a) Every person under the age of 18 who possesses marijuana for sale shall be punished in the same manner provided in paragraph (1) of subdivision (b) of section 11357.

Revised 03/06/2017
This document is a summary of statute, may not contain the most recent statutory language, and is not intended to serve as a legal document.
Page 61
(b) Every person 18 years of age or over who possesses marijuana for sale shall be punished by imprisonment in a county jail for a period of not more than six months or by an fine of not more than five hundred dollars ($500), or by both such fine and imprisonment.

(c) Notwithstanding subdivision (b), a person 18 years of age or over who possesses marijuana for sale may be punished by imprisonment pursuant to subdivision (h) of Section 1170 of the Penal Code if:

(1) The person has one or more prior convictions for an offense specified in clause (iv) of subparagraph (C) of paragraph (2) of subdivision (e) of Section 667 of the Penal Code or for an offense requiring registration pursuant to subdivision (c) of Section 290 of the Penal Code;

(2) The person has two or more prior convictions under subdivision (b); or

(3) The offense occurred in connection with the knowing sale or attempted sale of marijuana to a person under the age of 18 years.

(d) Notwithstanding subdivision (b), a person 21 years of age or over who possesses marijuana for sale may be punished by imprisonment pursuant to subdivision (h) of Section 1170 of the Penal Code if the offense involves knowingly hiring, employing, or using a person 20 years of age or younger in unlawfully cultivating, transporting, carrying, selling, offering to sell, giving away, preparing for sale, or peddling any marijuana.

SECTION 8.4.
Section 11360 of the Health and Safety Code is amended to read:

11360. Unlawful transportation, importation, sale, or gift

(a) Except as otherwise provided by this section or as authorized by law, every person who transports, imports into this state, sells, furnishes, administers, or gives away, or offers to transport, import into this state, sell, furnish, administer, or give away, or attempts to import into this state or transport any marijuana shall be punished as follows:

(1) Persons under the age of 18 years shall be punished in the same manner as provided in paragraph (1) of subdivision (b) of section 11357.

(2) Persons 18 years of age or over shall be punished by imprisonment in a county jail for a period of not more than six months or by a fine of not more than five hundred dollars ($500.00), or by both such fine and imprisonment.

(3) Notwithstanding paragraph (2), a person 18 years of age or over may be punished by imprisonment pursuant to subdivision (h) of Section 1170 of the Penal Code for a period two, three, or four years if:

(A) The person has one or more prior convictions for an offense specified in clause (iv) of subparagraph (c) of paragraph (2) of subdivision (e) of Section 667 of the Penal Code or for an offense requiring registration pursuant to subdivision (c) of Section 290 of the Penal Code;

(B) The person has two or more prior convictions under paragraph (2);
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Comprehensive
Adult Use of Marijuana Act – 2016
Proposition 64

(C) The offense involved the knowing sale, attempted sale, or the knowing offer to sell, furnish, administer or give away marijuana to a person under the age of 18 years; or

(D) The offense involved the import, offer to import, or attempted import into this state, or the transport for sale, offer to transport for sale, or attempted transport for sale out of this state, of more than 28.5 grams of marijuana or more than four grams of concentrated cannabis.

(b) Except as authorized by law, every person who gives away, offers to give away, transports, offers to transport, or attempts to transport not more than 28.5 grams of marijuana, other than concentrated cannabis, is guilty of an infraction and shall be punished by a fine of not more than one hundred dollars ($100). In any case in which a person is arrested for a violation of this subdivision and does not demand to be taken before a magistrate, such person shall be released by the arresting officer upon presentation of satisfactory evidence of identity and giving his or her written promise to appear in court, as provided in Section 853.6 of the Penal Code, and shall not be subjected to booking.

(c) For purposes of this section, “transport” means to transport for sale.

(d) This section does not preclude or limit prosecution for any aiding and abetting or conspiracy offenses.

SECTION 8.5.
Section 11361.1 is added to the Health and Safety Code, to read:

11361.1.
(a) The drug education and counseling requirements under Section 11361.1 is added to the Health and Safety Code, to read:

(1) Mandatory, unless the court finds that such drug education or counseling is unnecessary for the person, or that a drug education or counseling program is unavailable;

(2) Free to participants, and the drug education provide at least four hours of group discussion or instruction based on science and evidence-based principles and practices specific to the use and abuse of marijuana and other controlled substances.

(b) For good cause, the court may grant an extension of time not to exceed 30 days for a person to complete the drug education and counseling required under sections 11357, 11358, 11359; and 11360.

SECTION 8.6.
Section 11361.5 of the Health and Safety Code is amended to read:

11361.5. Destruction of Arrest and Conviction Records; Procedure; Exceptions
(a) Records of any court of this state, any public or private agency that provides services upon referral under Section 1000.2 of the Penal Code, or of any state agency pertaining to the arrest or conviction of any person for a violation of Section 11357 or subdivision (b) of Section

Revised 03/06/2017
This document is a summary of statute, may not contain the most recent statutory language, and is not intended to serve as a legal document.
Page 63
11360, or pertaining to the arrest or conviction of any person under the age of 18 for a violation of any provision of this article except Section 11357.5, shall not be kept beyond two years from the date of the conviction, or from the date of the arrest if there was no conviction, except with respect to a violation of subdivision (d) of Section 11357, or any other violation by a person under the age of 18 occurring upon the grounds of or within any school providing instruction in kindergarten or any of grades 1 through 12 during hours the school is open for classes or school-related programs, the records shall be retained until the offender attains the age of 18 years at which time the records shall be destroyed as provided in this section. Any court or agency having custody of the records, including the statewide criminal databases, shall provide for the timely destruction of the records in accordance with subdivision (c), and such records must also be purged from the statewide criminal databases. As used in this subdivision, "records pertaining to the arrest or conviction" shall include records of arrests resulting in the criminal proceeding and records relating to other offenses charged in the accusatory pleading, whether defendant was acquitted or charges were dismissed. The two-year period beyond which records shall not be kept pursuant to this subdivision shall not apply to any person who is, at the time at which this subdivision would otherwise require record destruction, incarcerated for an offense subject to this subdivision. For such persons, the two-year period shall begin to run from the date the person is released from custody. The requirements of this subdivision do not apply to records of any conviction occurring prior to January 1, 1976, or records of any arrest not followed by a conviction occurring prior to that date, or records of any arrest for an offense specified in subdivision (c) of Section 1192.7, or subdivision (c) of Section 667.5 of the Penal Code.

(b) This subdivision applies only to records of convictions and arrests not followed by conviction occurring prior to the January 1, 1976, for any of the following offenses:

(1) Any violation of Section 11357 or statutory predecessor thereof.
(2) Unlawful possession of a device, contrivance instrument, or paraphernalia used for unlawfully smoking marijuana, in violation of Section 13364, as it existed prior to January 1, 1976, or a statutory predecessor thereof.
(3) Unlawful visitation or presence in a room or place which marijuana is being unlawfully smoked or used, in violation of Section 11365, as it existed prior to January 1, 1976 or statutory predecessor thereof.
(4) Unlawfully using or being under the influence of marijuana in violation of Section 11550, as it existed prior to January 1, 1976, or a statutory predecessor thereof.

Any persons subject to an arrest of conviction for those offenses may apply to the Department of Justice for destruction of records pertaining to the arrest or conviction if two or more years have elapsed since the date of the conviction, or since the date of arrest of not followed by a conviction. The application shall be submitted upon a form supplied by the Department of Justice and shall be accompanied by a fee, which shall be established by the department in an amount which will defray the cost of administering this subdivision and costs incurred by the state under subdivision (c), but which shall not
Comprehensive
Adult Use of Marijuana Act – 2016
Proposition 64

exceed thirty seven dollars and fifty cents ($37.50). The application form may be made available at every local police of sheriff’s department and from the Department of Justice and may require that information which the department determines is necessary for purposes of identification.

The department may request, but not require, the applicant to include a self-administered fingerprint upon the application. If the department is unable to sufficiently identify the applicant for the purposes of this subdivision without the fingerprint or without additional fingerprints, it shall so notify the applicant and shall request the applicant to submit any fingerprints which may be required to effect identification, including a complete set if necessary, or, alternatively, to abandon the application and request a refund of all or a portion of the fee submitted with the application, as provided in this section. If the applicant fails or refuses to submit fingerprints in accordance with the department’s request within a reasonable time which shall be established by the department or of the applicant requests a refund of the fee, the department shall promptly mail a refund to the applicant at the address specified in the application or at any other address which may be specified by the applicant. However, if the department has notified the applicant that election to abandon the application will result in forfeiture of a specified amount which is a portion of the fee, the department may retain a portion of the fee which the department determines will defray the actual costs of processing the application, provided the amount of the portion retained shall not exceed ten dollars ($10).

Upon receipt of a sufficient application, the Department of Justice shall destroy records of the department, if any, pertaining to the arrest of conviction in the manner prescribed by subdivision (c) and shall notify the Federal Bureau of Investigation, the law enforcement agency which arrested the applicant, and, if the applicant was convicted, the probation department which investigated the applicant and Department of Motor Vehicles, of the application.

(c) Destruction of the records of arrest or conviction pursuant to subdivision (a) or (b) shall be accomplished by permanent obliteration of all entries or notations upon the records pertaining to the arrest of conviction, and the record shall be prepared again so that appears that the arrest of conviction never occurred. However, where (1) the only entries upon record pertain to the arrest or conviction and (2) the record can be destroyed without necessarily effecting the destruction of other records, then the document constituting the record shall be physically destroyed.

(d) Notwithstanding subdivision (a) or (b) written transcriptions of oral testimony in the court proceedings and published judicial appellate court proceedings and published judicial appellate reports are not subject to this section. Additionally, no records shall be destroyed pursuant to subdivision (a) if the defendant or a codefendant has filed a civil action against the peace officers or law enforcement jurisdiction which made the arrest or instituted the prosecution and if the agency which is the custodian of the records has received a certified copy of the complaint in the civil action, until the civil action has been finally resolved.
Immediately following the final resolution of the civil action, records subject to subdivision (a) shall be destroyed pursuant to subdivision (c) if more than two years have elapsed from the date of the conviction or arrest without conviction.

SECTION 8.7
Section 11361.8 is added to the Health and Safety Code to read:

11361.8
(a) A person currently serving a sentence for a conviction, whether by trial or by open or negotiated plea, who would not have been guilty of an offense or who would have been guilty of a lesser offense under the Control, Regulate and Tax Adult Use of Marijuana Act had that Act been in effect at the time of the offense may petition for a recall or dismissal of sentence before the trial court that entered the judgment of conviction in his or her case to request resentencing or dismissal in accordance with Sections 11357, 11358, 11359, 11360, 11362.1, 11362.2, 11362.3, and 11362.4 as those sections have been amended or added by this Act.
(b) Upon receiving a petition under subdivision (a), the court shall presume the petitioner satisfies the criteria in subdivision (a) unless the party opposing the petition proves by clear and convincing evidence that the petitioner does not satisfy the criteria. If the petitioner satisfies the criteria in subdivision (a), the court shall grant the petition to recall the sentence or dismiss the sentence because it is legally invalid unless the court determines that granting the petition would pose an unreasonable risk of danger to public safety.
(1) In exercising its discretion, the court may consider, but shall not be limited to evidence provided for in subdivision (b) of Section 1170.18 of the Penal Code.
(2) As used in this section, "unreasonable risk of danger to public safety" has the same meaning as provided in subdivision (c) of Section 1170.18 of the Penal Code.
(c) A person who is serving a sentence and resentenced pursuant to subdivision (b) shall be given credit for any time already served and shall be subject to supervision for one year following completion of his or her time in custody or shall be subject to whatever supervision time he or she would have otherwise been subject to after release, whichever is shorter, unless the court, in its discretion, as part of its resentencing order, releases the person from supervision. Such person is subject to parole supervision under Penal Code Section 3000.08 or post-release community supervision under subdivision (a) of Section 3451 of the Penal Code by the designated agency and the jurisdiction of the court in the county in which the offender is released or resides, or in which an alleged violation of supervision has occurred, for the purpose of hearing petitions to revoke supervision and impose a term of custody.
(d) Under no circumstances may resentencing under this section result in the imposition of a term longer than the original sentence, or the reinstatement of charges dismissed pursuant to a negotiated plea agreement.

(e) A person who has completed his or her sentence for a conviction under Sections 11357, 11358, 11359, and 11360, whether by trial or open or negotiated plea, who would not have been guilty of an offense or who would have been guilty of a lesser offense under the Control, Regulate and Tax Adult Use of Marijuana Act had that Act been in effect at the time of the offense, may file an application before the trial court that entered the judgment of conviction in his or her case to have the conviction dismissed and sealed because the prior conviction is now legally invalid or predesignated as a misdemeanor or infraction in accordance with Sections 11357, 11358, 11359, 11360, 11362.1, 11362.2, 11362.3, and 11362.4 as those sections have been amended or added by this Act.

(f) The court shall presume the petitioner satisfies the criteria in subdivision (e) unless the party opposing the application proves by clear and convincing evidence that the petitioner does not satisfy the criteria in subdivision (e). Once the applicant satisfies the criteria in subdivision (e), the court shall redesignate the conviction as a misdemeanor or infraction or dismiss and seal the conviction as legally invalid as now established under the Control, Regulate and Tax Adult Use of Marijuana Act.

(g) Unless requested by the applicant, no hearing is necessary to grant or deny an application filed under subdivision (e).

(h) Any felony conviction that is recalled and resentenced under subdivision (b) or designated as a misdemeanor or infraction under subdivision (f) shall be considered a misdemeanor or infraction for all purposes. Any misdemeanor conviction that is recalled and resentenced under subdivision (b) or designated as an infraction under subdivision (f) shall be considered an infraction for all purposes.

(i) If the court that originally sentenced the petitioner is not available, the presiding judge shall designate another judge to rule on the petition or application.

(j) Nothing in this section is intended to diminish or abrogate any rights or remedies otherwise available to the petitioner or applicant.

(k) Nothing in this and related sections is intended to diminish or abrogate the finality of judgments in any case not falling within the purview of the Control, Regulate and Tax Adult Use of Marijuana Act.

(l) A resentencing hearing ordered under this act shall constitute a "post-conviction release proceeding" under paragraph (7) of subdivision (b) of Section 28 of Article I of the California Constitution (Marsy’s Law).

(m) The provisions of this section shall apply equally to juvenile delinquency adjudications and dispositions under Section 602 of the Welfare and Institutions Code if the juvenile would not have been guilty of an offense or would have been guilty of a lesser offense under the Control, Regulate and Tax Adult Use of Marijuana Act.

(n) The Judicial Council shall promulgate and make available all necessary forms to enable the filing of the petitions and applications provided in this section.
SECTION 9. INDUSTRIAL HEMP.
Section 11018.5 of the Health and Safety Code is amended to read as follows:

11018.5. Industrial hemp
(a) "Industrial hemp" means a fiber or oilseed crop, or both, that is limited to types of the plant Cannabis sativa L. having no more than three-tenths of 1 percent tetrahydrocannabinol (THC) contained in the dried flowering tops, whether growing or not; the seeds of the plant, the resin extracted from any part of the plant; and every compound, manufacture, salt, derivative, mixture, or preparation of the plant, its seeds or produced therefrom.
(b) The possession, use, purchase, sale, cultivation, processing, manufacture, packaging, labeling, transporting, storage, distribution, use and transfer of industrial hemp shall not be subject to the provisions of this division or of Division 10 (commencing with Section 26000) of the Business and Professions Code, but instead shall be regulated by the Department of Food and Agriculture in accordance with the provisions of Division 24 (commencing with Section 81000) of the Food and Agricultural Code, inclusive.

SECTION 9.2
Section 81000 of the Food and Agricultural Department Code is amended to read:

81000. Definitions
For purposes of this division, the following terms have the following meanings:
(a) "Board" means the Industrial Hemp Advisory Board.
(b) "Commissioner" means the county agricultural c01mnissioner.
(c) "Established agricultural research institution" any institution that is either:
   (1) A public or private institution or organization that maintains land or facilities for agricultural research, including colleges, universities, agricultural research centers, and conservation research centers; or
   (2) An institution of higher education (as defined in Section 1001 of the Higher Education Act of 1965 (20 U S.C. 1001)) that grows, cultivates or manufactures industrial hemp for purposes of research conducted under an agricultural pilot program or other agricultural or academic research.
(d) "Industrial hemp" has the same meaning as that term is defined in Section 11018.5 of the Health and Safety Code.
(e) "Secretary" means the Secretary of Food and Agriculture.
(f) "Seed breeder" means an individual or public or private institution or organization that is registered with the commissioner to develop seed cultivars intended for sale or research.
(g) "Seed cultivar" means a variety of industrial hemp.
(h) "Seed development plan" means a strategy devised by a seed breeder, or applicant seed breeder, detailing his or her planned approach to growing and developing a new seed cultivar for industrial hemp.

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Page 68
SECTION 9.3.  
Section 11018-5 of the Health and Safety Code is amended to read:

81006. Industrial Hemp Growth Limitations; Prohibitions; Imports; Laboratory Testing  
(a) 
(1) Except when grown by an established agricultural research institution or a registered seed breeder, industrial hemp shall be grown only as a densely planted fiber or oilseed crop, or both, in acreages of not less than one-tenth of an acre at the same time,  
(2) Registered seed breeders, for purposes of seed production, shall only grow industrial hemp as a densely planted crop in acreages of not less than one-tenth of an acre at the same time,  
(3) Registered seed breeders, for purposes of developing a new California seed cultivar, shall grow industrial hemp as densely as possible in dedicated acreage of not less than one-tenth of an acre and in accordance with the seed development plan. The entire area of the dedicated acreage is not required to be used for the cultivation of the particular seed cultivar.  
(b) Ornamental and clandestine cultivation of industrial hemp is prohibited. All plots shall have adequate signage indicating they are industrial hemp.  
(c) Pruning and tending of individual industrial hemp plants is prohibited, except when grown by an established agricultural research institution or when the action is necessary to perform the tetrahydrocannabinol (THC) testing described in this section.  
(d) Culling of industrial hemp is prohibited, except when grown by an established agricultural research institution, when the action is necessary to perform the THC testing described in this section, or for purposes of seed production and development by a registered seed breeder.  
(e) Industrial hemp shall include products imported under the Harmonized Tariff Schedule of the United States (2013) of the United States International Trade Commission, including, but not limited to, hemp seed, per subheading 1207.99.03, hemp oil, per subheading 1515.90.80, oilcake, per subheading 2306.90.01, true hemp, per heading 5302, true hemp yarn, per subheading 5308.20.00, and woven fabrics of true hemp fibers, per subheading 5311.00.40.  
(f) Except when industrial hemp is grown by an established agricultural research institution, a registrant that grows industrial hemp under this section shall, before the harvest of each crop and as provided below, obtain a laboratory test report indicating the THC levels of a random sampling of the dried flowering tops of the industrial hemp grown.  
1) Sampling shall occur as soon as practicable when the THC content of the leaves surrounding the seeds is at its peak and shall commence as the seeds begin to mature, when the first seeds of approximately 50 percent of the plants are resistant to compression.
(2) The entire fruit-bearing part of the plant including the seeds shall be used as a sample. The sample cut shall be made directly underneath the inflorescence found in the top one-third of the plant.

(3) The sample collected for THC testing shall be accompanied by the following documentation:
   (A) The registrant’s proof of registration.
   (B) Seed certification documentation for the seed cultivar used.
   (C) The THC testing report for each certified seed cultivar used.

(4) The laboratory test report shall be issued by a laboratory registered with the federal Drug Enforcement Administration, shall state the percentage content of THC, shall indicate the date and location of samples taken, and shall state the Global Positioning System coordinates and total acreage of the crop. If the laboratory tests report indicates a percentage content of THC that is equal to or less than three-tenths of 1 percent, the words "PASSED AS CALIFORNIA INDUSTRIAL HEMP" shall appear at or near the top of the laboratory test report. If the laboratory test report indicates a percentage content of THC that is greater than three-tenths of 1 percent, the words "FAILED AS CALIFORNIA INDUSTRIAL HEMP" shall appear at or near the top of the laboratory test report.

(5) If the laboratory test report indicates a percentage content of THC that is equal to or less than three-tenths of 1 percent, the laboratory shall provide the person who requested the testing not less than 10 original copies signed by an employee authorized by the laboratory and shall retain one or more original copies of the laboratory test report for a minimum of two years from its date of sampling.

(6) If the laboratory test report indicates a percentage content of THC that is greater than three tenths of 1 percent and does not exceed 1 percent, the registrant that grows industrial hemp shall submit additional samples for testing of the industrial hemp grown.

(7) A registrant that grows industrial hemp shall destroy the industrial hemp grown upon receipt of a first laboratory test report indicating a percentage content of THC that exceeds 1 percent or a second laboratory test report pursuant to paragraph (6) indicating a percentage content of THC that exceeds three-tenths of 1 percent but is less than 1 percent. If the percentage content of THC exceeds 1 percent, the destruction shall take place within 48 hours after receipt of the laboratory test report. If the percentage content of THC in the second laboratory test report exceeds three-tenths of 1 percent but is less than 1 percent, the destruction shall take place as soon as practicable, but no later than 45 days after receipt of the second test report.

(8) A registrant that intends to grow industrial hemp and who complies with this section shall not be prosecuted for the cultivation or possession of marijuana as a result of a laboratory test report that indicates a percentage content of THC that is greater than three-tenths of 1 percent but does not exceed 1 percent.

(9) Established agricultural research institutions shall be permitted to cultivate or possess industrial hemp with a laboratory test report that indicates a percentage content of THC that is greater than three-tenths of 1 percent if that cultivation or possession contributes

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to the development of types of industrial hemp that will comply with the three-tenths of 1 percent THC limit established in this division.

(10) Except for an established agricultural research institution, a registrant that grows industrial hemp shall retain an original signed copy of the laboratory test report for two years from its date of sampling, make an original signed copy of the laboratory test report available to the department, the commissioner, or law enforcement officials or their designees upon request, and shall provide an original copy of the laboratory test report to each person purchasing, transporting, or otherwise obtaining from the registrant that grows industrial hemp the fiber, oil, cake, or seed, or any component of the seed, of the plant.

(g) If, in the Attorney General's opinion issued pursuant to Section 8 of the act that added this division, it is determined that the provisions of this section are not sufficient to comply with federal law, the department, in consultation with the board, shall establish procedures for this section that meet the requirements of federal law.

SECTION 9.5.
Section 81008 of the Food and Agricultural Code is amended to read:

81008. Attorney General reports; Requirements
(a) Not later than January 1, 2019, the Attorney General shall report to the Assembly and Senate Committees on Agriculture and the Assembly and Senate Committees on Public Safety the reported incidents, if any, of the following:
(1) A field of industrial hemp being used to disguise marijuana cultivation.
(2) Claims in a court hearing by persons other than those exempted in subdivision (f) of Section 81006 that marijuana is industrial hemp.
(b) A report submitted pursuant to subdivision (a) shall be submitted in compliance with Section 9795 of the Government Code.
(c) Pursuant to Section 10231.5 of the Government Code, this section is repealed on January 1, 2023, or four years after the date that the report is due, whichever is later.

SECTION 9.6.
Section 81010 of the Food and Agricultural Code is amended to read:

81010. Operation of division
(a) This division, and Section 221 of the Food and Agricultural Code, shall not become operative on January 1, 2017.
(b) The possession, use, purchase, sale, production, manufacture, packaging, labeling, transporting, storage, distribution, use, and transfer of industrial hemp shall be regulated in accordance with this division. The Bureau of Marijuana Control has authority to regulate and control plants and prod that fit within the definition of industrial hemp but that are produced, processed, manufactured, tested, delivered, or otherwise handled pursuant to a license.
This statute has been replaced with the Medicinal and Adult-Use Regulation and Safety Act (included in this PEIR as Appendix H), but is presented here for informational purposes.

### SECTION 10. AMENDMENT

This Act shall be broadly construed to accomplish its purposes and intent as stated in Section 3. The Legislature may by majority vote amend the provisions of this Act contained in Sections 5 and 6 to implement the substantive provisions of those sections, provided that such amendments are consistent with and further the purposes and intent of this Act as stated in Section 3. Amendments to this Act that enact protections for employees and other workers of licensees under Section 6 of this Act that are in addition to the protections provided for in this Act or that otherwise expand the legal rights of such employees or workers of licensees under Section 6 of this Act shall be deemed to be consistent with and further the purposes and intent of this Act. The Legislature may by majority vote amend, add, or repeal any provisions to further reduce the penalties for any of the offenses addressed by this Act. Except as otherwise provided, the provisions of the Act may be amended by a two-thirds vote of the Legislature to further the purposes and intent of the Act.

### SECTION 11. CONSTRUCTION AND INTERPRETATION

The provisions of this Act shall be liberally construed to effectuate the purposes and intent of the Control, Regulate and Tax the Adult Use of Marijuana Act; provided, however, no provision or provisions of this Act shall be interpreted or construed in a manner to create a positive conflict with federal law, including the federal Controlled Substances Act, such that the provision or provisions of this Act and federal law cannot consistently stand together.

### SECTION 12. SEVERABILITY

If any provision in this Act, or part thereof, or the application of any provision or part to any person or circumstance is held for any reason to be invalid or unconstitutional, the remaining provisions and parts shall not be affected, but shall remain in full force and effect, and to this end the provisions of this Act are severable.

### SECTION 13. CONFLICTING INITIATIVES

In the event that this measure and another measure or measures concerning the control, regulation, and taxation of marijuana, medical marijuana, or industrial hemp appear on the same statewide election ballot, the provisions of the other measure or measures shall be deemed to be in conflict with this measure. In the event that this measure receives a greater number of affirmative votes, the provisions of this measure shall prevail in their entirety, and the provisions of the other measure shall be null and void.

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Appendix D

CalCannabis Cultivation Licensing Updated Scoping Report
California Department of Food and Agriculture

CalCannabis Cultivation Licensing

Updated Scoping Report

Prepared for:
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June 2017
TABLE OF CONTENTS

Executive Summary
Overview .................................................................................................................. ES-1
Summary of the Scoping Process ................................................................................ ES-1
Summary of Comments Received ................................................................................ ES-2
  Comments on the Proposed Program Regulation ................................................... ES-2
  Comments Relevant to the Environmental Review ............................................... ES-4
  Other Comments Outside the Scope of the PEIR ................................................ ES-8
Next Steps .................................................................................................................. ES-9
  Development of Regulations ................................................................................ ES-9
  Development of Draft PEIR ................................................................................ ES-9
  Ongoing Outreach ................................................................................................. ES-9

Chapter 1. Introduction
Background .............................................................................................................. 1–1
Overview .................................................................................................................. 1–2

Chapter 2. CEQA Scoping Process
Notice of Preparation ................................................................................................ 2-1
Public Outreach ........................................................................................................ 2-1
Public Workshops ...................................................................................................... 2-2
  Workshop Format .................................................................................................. 2-3
  Participating Staff ................................................................................................. 2-3
  Workshop Attendance .......................................................................................... 2-4
Comments Received .................................................................................................. 2-4
  Oral Comments .................................................................................................. 2-4
  Written Comments .............................................................................................. 2-4

Chapter 3. Summary of Comments Received
Review of Scoping Comments Received .................................................................. 3-1
Comment Categories Relevant to the Proposed Program Regulations ...................... 3-4
  Regulatory Goal Responses (Regulatory Goals Nos. 1–7) .................................. 3-4
  License Types Sought .......................................................................................... 3-12
  Type 3 Limits ....................................................................................................... 3-14
  Nurseries ............................................................................................................. 3-14
  Inspections and Records ..................................................................................... 3-14
  Track-and-Trace System .................................................................................... 3-16
  Other .................................................................................................................. 3-19
Comment Categories Relevant to the Environmental Review .................................. 3-21
  General Cultivation Practices ........................................................................... 3-21
  Aesthetics ......................................................................................................... 3-23
  Agriculture and Forestry ................................................................................... 3-24
  Air Quality and Odor ......................................................................................... 3-25
  Biological Resources ......................................................................................... 3-26
  Cultural Resources and Tribal Cultural Resources .......................................... 3-28
  Geology and Seismicity ..................................................................................... 3-29
Energy Use and Greenhouse Gas Emissions .....................................................3-29
Hazards, Hazardous Materials, and Human Health .........................................3-31
Hydrology and Water Quality .........................................................................3-33
Land Use and Planning ..................................................................................3-36
Noise ..............................................................................................................3-39
Population and Housing .................................................................................3-39
Public Services ...............................................................................................3-39
Recreation .......................................................................................................3-40
Transportation and Traffic .............................................................................3-40
Utilities and Service Systems .........................................................................3-41
Alternatives Analysis .......................................................................................3-41
Cumulative Considerations ...........................................................................3-42
PEIR CEQA Process .......................................................................................3-42
Others ............................................................................................................3-43

Chapter 4. Next Steps
Development of Draft Regulations ..................................................................4-1
Development of Draft PEIR ..........................................................................4-1
Ongoing Outreach ..........................................................................................4-1
Program Website Updates ............................................................................4-2
Other Opportunities for Public Involvement in the Proposed
Regulations .......................................................................................................4-2
Other Opportunities for Public Involvement in the PEIR ..............................4-2

Figures
1 Comments Received by Location ..................................................................3-2

Tables
1 Newspaper Notices .......................................................................................2-2
2 Public Service Announcements ..................................................................2-2
3 Numbers of Comments Received ...............................................................2-4
# Appendices

(Applicable for viewing at calcannabis.cdfa.ca.gov)

**A** Notices of Preparation  
**B** Notice of Preparation Mailing Lists  
**C** Newspaper Notices  
**D** Pre-Regulation Workshop Survey  
**E** Frequently Asked Questions  
**F** Fact Sheet Summary  
**G** Summary of Statute and Regulatory Goals  
**H** Comment Forms  
**I** Workshop PowerPoint Presentation  
**J** Scoping Meeting Posters  
**K** Scoping Meeting Attendee Sign-In Sheets  
**L** Transcripts Received during Scoping Meetings  
**M** Comment Cards Received during Scoping Meetings  
**N** Materials Provided during Scoping Meetings  
**O** Emailed Comments Received during Scoping Periods
## Acronyms and Abbreviations

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Act</td>
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<td>California Department of Food and Agriculture</td>
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<td>California Environmental Quality Act</td>
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EXECUTIVE SUMMARY

Overview

This Scoping Report summarizes the comments and questions raised during two public scoping periods for the preparation of a program environmental impact report (PEIR) by the California Department of Food and Agriculture (CDFA) for the CalCannabis Cultivation Licensing program (program, or proposed program). Pursuant to the California Environmental Quality Act (CEQA), CDFA held two scoping periods to allow interested parties the opportunity to comment on environmental issues and concerns regarding the CalCannabis Cultivation Licensing program. The first scoping period began on September 1, 2016, and ended on September 30, 2016. The second scoping period began on April 27, 2017, and ended on May 26, 2017.

This Scoping Report includes:

- a summary of the public scoping process,
- a summary of key issues identified during the scoping period, and
- a description of future steps to be taken in the rulemaking and environmental review process.

Summary of the Scoping Process

In 2016, CDFA issued a Notice of Preparation (NOP) for statewide medical cannabis cultivation licensing regulations and a track-and-trace system. A Notice of Preparation (NOP) was distributed in September 2016, inviting the public to comment during the 30-day period.

With passage of the Adult Use of Marijuana Act in November 2016, CDFA expanded its program to include adult-use (nonmedical) cannabis cultivation activities. A revised NOP was released on April 27, 2017, to provide information about the expanded program and its potential environmental impacts.

A total of 406 written comments were received.

In addition, eight public workshops were held throughout California in September 2016. The public was notified of these workshops through CDFA’s listserv, publication of notices in nine newspapers throughout the state, and other means. Approximately 968 individuals attended the scoping workshops, which included a number of topical stations and staff available to engage in discussion and answer questions. Ancillary materials were provided, and a court reporter was available to receive comments. Forty-seven oral comments were provided at the workshops.
Summary of Comments Received

Comments were generally sorted into one of three categories based on their relevance to (1) the proposed Program regulations, (2) the PEIR, or (3) issues outside of the scope of the PEIR. The following text provides a summary of the comments. Chapter 3 of this Scoping Report provides additional details on the comments received.

Comments on the Proposed Program Regulation

As part of the scoping process, CDFA requested feedback on seven goals to inform development of the Program regulations. The seven regulatory goals were as follows:

- **Regulatory Goal 1**: Define Terms Used in Cannabis Cultivation.
- **Regulatory Goal 2**: Define the Application Process and Requirements for Licensing.
- **Regulatory Goal 3**: Identify the Cultivator License Types by Light Source and Site Size; Clarify Allowable License Combinations; Outline Renewal Process; and Set Licensing Fees.
- **Regulatory Goal 4**: Specify Requirements to Mitigate Environmental Health and Public Safety Issues.
- **Regulatory Goal 5**: Outline Cultivator Responsibilities for Compliance Inspection.
- **Regulatory Goal 6**: Specify Track and Trace Requirements.
- **Regulatory Goal 7**: State License Violations and Appropriate Penalties.

Responses to these goals and additional comments related to the regulations are summarized below. The comment subcategories related to CDFA’s Proposed Program regulations included regulatory goal responses (Regulatory Goals Nos. 1 through 7), license types sought, type 3 limits, nurseries, inspections and records, track and trace, and other.

- Responses to **Regulatory Goal 1** provided definitions for cannabis cultivation terms (canopy, flowering, immature, mixed-light cultivation, premises, and propagation).
- Responses to **Regulatory Goal 2** indicate a preference for online cultivation license applications (but also the availability of paper applications); not banning weapons or firearms at cultivation sites; and, generally, plans to apply for three or fewer licenses. Additional clarification was also requested in defining if an applicant has “good standing” from local jurisdictions in order to obtain a state license.
- Responses to **Regulatory Goal 3** are diverse and include responses to site area restrictions, lighting requirements for mixed-light, limiting Type 3 licenses, allowing for “mixed use” applications (for cultivators who are growing for medical and adult-use), and estimating the number of applied-for licensed cultivation sites by one person.
- Responses to **Regulatory Goal 4** relate to the following key requirements for environmental health and safety mitigation measures: require USDA farm spray logs for pesticides and odor control for indoor facilities; allow organic chemicals or
targeted pesticides; require optimal watering, water and soil recycling, and green waste; use common methods of security; and distribute clones/juvenile plants to cultivators, dispensaries, members of collective, or solely to a distributor.

- Responses to Regulatory Goal 5 recommend establishing requirements for record content and storage duration for business-related documents, material records, and enhanced employee-related records.

- Responses to Regulatory Goal 6 include a variety of suggestions for track-and-trace methods, though the most popular was to track a produced product by batch number and purchase order from the time the plant is a seed or clone and throughout its life stages all the way through distribution.

- Responses to Regulatory Goal 7 focus on handling enforcement in an expeditious manner, and defining minor and serious violations more clearly.

- License types sought concerns are generally associated with license quantity limitations, costs of cultivation licensing and applications, manufacturing and dispensary license requirements, cultivation area limits, cottage licenses, and methods to distinguish license types from one another.

- Input on Type 3 limits is limited to two comments recommending limits for primarily outdoor grows based on their watershed-related effects, and applying limits only to cultivation operations proposed after the implementation date for CDFA's CalCannabis Cultivation Licensing program.

- Nursery-related comments express concerns about pests, facility cleanliness, nursery stock licensing and label requirements, licensing costs, scale and space of nurseries, distributor and dispensary roles, and consistency for nursery-related terms and definitions.

- Inspections and records-related comments identify concerns associated with costs to local and county departments; unique identifier database access for local agencies; unannounced and/or law enforcement-escorted inspections; quantity of inspections per year; product damage or pest infestation from site or cannabis material inspections; provision of a grace period to address violations; and specific recommendations for record content.

- The track-and-trace-related regulations produced numerous unique comments. In general, the comments provided address recommendations or concerns related to certain track-and-trace technologies and ensuring the technology was compatible with a variety of hardware and software systems; data encryption; tracking individual plants or particular plant stages/sizes; using agricultural produce traceability methods; tracking cannabis products through all stages of cultivation; tracking cannabis weights; providing electronic tracking; allowing law enforcement or third parties uniform access to the tracking information; requiring open standard; protecting personal patient information; tracing products back to the respective cannabis sources; tracking staged flower harvests; and administrative management needs and costs of the track-and-trace program.

- Other comments received that are related to regulations include the following:
- Protection of federally granted certified organic farmers from cannabis cultivation;
- Concerns regarding the background of cultivators, their businesses, and/or their funding mechanisms (past felonies, live out-of-state most of the year, foreign countries controlling cannabis land or water usage, large corporations);
- Applicability of regulations to agricultural marketing cooperatives;
- Providing a regulated marketplace for growers to comply with cultivation regulations;
- Incentivizing organic farming by cannabis growers;
- Requiring a state cultivation license prior to construction of cannabis cultivation facilities;
- Allowing for on-site consumption/sales (i.e., farm tours, bed & breakfast, events);
- Logistics of storage and packaging of cannabis products following testing and timing of transport to dispensary;
- Mitigating violence from cannabis cultivation, addressing illegal activities and black market as best as possible;
- Ensuring that the licensing process avoids opportunities for abuse, fraud, and inconsistency;
- General concern on timing of the licensing program, including the fact that cannabis remains a federally banned drug;
- Cannabis product pricing due to overregulation;
- Quicker application process;
- Equal opportunity concerns and priority recommendations for variety of cultivators related to small businesses, racial imbalance in cultivation industry, certified organic farms, cultivators that have already met local and statewide requirements, existing cultivation operations; and
- Prohibiting cannabis cultivation until 215 card program is revised.

**Comments Relevant to the Environmental Review**

The following is a summary of comments received that pertain to EIR comment categories relevant to the proposed program and preparation of the draft PEIR.

- **General cultivation practices** for medical cannabis were discussed in numerous distinct comments. These comments include recommendations or concerns regarding demand and supply, cultivation techniques and restrictions, and general program-related recommendations.

- Demand and supply comments include determining the number of qualified California medical cannabis patients, their consumption methods (medical
products), and typical cannabis amount consumed; the amount of plant material (canopy area) required for these products; general cannabis production and sale regulation; and the availability of funding mechanisms for cultivators.

- Cultivation technique-related comments include an organic certification program; noxious weed species prevention; amount of light exposure for each cannabis cultivation stage; alternative farming techniques; micropropagation and managing propagation materials; preference for outdoor cultivation; allowing cultivators to sort cannabis material into raw materials; pesticide and nutrient usage, storage, and disposal; proper equipment maintenance; zero waste indoor cultivation facilities; and restricting in-home grow operations.

- Comments related to CDFA’s program and ensuring proper compliance include developing a cultivation checklist tool for use by CDFA and others; preventing illegal growing and sale of cannabis; defining mixed-light cultivation; allowing participation in CDFA groups/panels; implementing chemical or carbonized mechanism-based standards for cultivation facilities; cannabis extraction methods; conversion to industrial hemp by current cannabis farmers; and providing clarity on whether or not “Right to Farm” ordinances apply differently to cannabis crops versus products.

- **Aesthetics**-related comments primarily relate to impacts on day and nighttime scenic views or scenic resources from cannabis cultivation operations equipment, land clearing, light pollution, or the cannabis grower’s temporary living accommodations. Additional concerns related to impacts on coastal viewsheds and minimizing security issues through use of visual barriers and lighting.

- **Agriculture and forestry** comments include concerns with land clearing or conversion of farmland, agricultural, or Timber Production Zone areas to cannabis cultivation; compatibility between cannabis cultivation operations and other surrounding agricultural areas; local zoning or Williamson Act contracts; spread of pests and diseases; regulation/enforcement concerns; a desire to limit grow sites to previously disturbed agriculture-zoned areas; and forest fragmentation and compliance with Forest Practice Act.

- **Air quality and odor**-related comments generally relate to grower compliance with local, state, and federal air quality laws; ventilation systems and airborne contaminants; and generating air quality impacts from cultivation transportation operations, dust from cleared lands, use of diesel-fueled equipment, and planned or accidental fires or burning that result in emissions.

- **Biological resources**-related comments and concerns include general compliance with existing laws and regulations, particularly related to the protection of endangered and native species and their habitats; appropriate biological mitigation and monitoring measures; the effects of hazardous chemicals on native species; impacts on aquatic habitats and natural aquifers; prohibiting cultivation operations in Timber Production Zones and in timberland/woodland to avoid impacts on native wildlife habitat; harmful effects of light pollution on wildlife migration patterns; foreign soils and corresponding potential pathogens; wildfire risk; soil degradation; noxious weed species; limiting number of cultivation sites; use of protective suits to minimize pest spreading; species-specific concerns (Pacific fisher,
Marbled Murrelet); genetic modification; wastewater and chemical dumping; and fish screening and passage at water diversions.

- **Cultural and tribal cultural resources** comments primarily relate to land grading and land clearing activities and potential effects on archeological or historic resources; consideration of tribal community concerns; discovery of human remains or tribal burial ground sites; proper mitigation for any impacts that could adversely affect cultural resources; dewatering tributary streams; impacts of herbicides and pesticides on water quality and cultural beneficial uses; allowing Tribes to authorize and regulate cannabis activities on its sovereign lands in any manner deemed appropriate; and requests for formal Tribal consultation.

- **Geology and seismicity**-related comments include concerns associated with erosion, sedimentation, disposal of foreign soils, contamination of soil or water from improper storage, soil degradation, and the proper usage, storage, and disposal of nutrients. Other comments include recommending a geotechnical services report for cultivation sites, and implementing more stringent regulations and enforcement to protect against effects of land terracing.

- **Energy use and greenhouse gas (GHG) emissions** concerns include GHG and high energy use associated with indoor cultivation sites; emissions from long distance travel to cultivation sites; direct and indirect impacts of GHG emissions at cultivation sites overall; consistency with plans, policies, regulations that address GHG emissions; potential emissions-reducing scenarios or alternatives; usage and disposal of appliances such as generators, butane canisters, and propane; and the promotion of energy efficient practices and appliances. Recommendations for energy use and GHG emissions include implementing carbon taxes; initiating a credit system to reward energy-reducing cultivation operations; establishing a minimum energy efficiency requirement; preparing a systematic and comprehensive discussion of climate change impacts caused by cannabis cultivation; requiring cannabis operations to calculate baseline carbon footprint and develop a plan to minimize it over time; conducting an energy audit; requiring renewable energy sources; maximizing energy usage during off-peak hours; penalizing against unmitigated GHG emissions; developing a statewide certification program; and not restricting lighting.

- **Hazards, hazardous materials, and human health**-related comments express concerns associated with the spread of pests and diseases; impacts to crops and livestock; use, transportation, and storage of hazardous materials and protecting against the spillage/runoff/drainage/drift of these substances; adequate evaluation and regulation of potential hazards on/near cultivation sites; potential health ramifications from noxious odors and fumes; increased wildfire risk; proper sanitation practices; emergency vehicles or evacuations; safety measures for structures and workers; increased crime/loss of safety; light pollution impacts on human health; equipment maintenance; recall of cannabis products due to human health threats/consequences; informing applicants of chemicals that may or may not be used on a cultivation site; and evaluating the environmental impacts of cannabis stalk material as a potential biomass material that can be used to amend soil, among other applications.
Hydrology and water quality-related comments relate to including applicable provisions of the Porter-Cologne Water Quality Control Act in the CalCannabis Cultivation Licensing regulations, and compliance with federal and state water regulations, including adopted best management practices. The comments express concerns regarding potential surface water and groundwater supply and quality impacts of cannabis cultivation due to cannabis water use, cultivation site placement/locations, nutrient/pesticide application in an irrigation system, improper handling and storage of hazardous materials, planting medium, obstructing natural water flows, improper wastewater disposal, wildfire impacts, importing water via water trucks from unmetered town hydrants, and erosion and runoff. Reporting/tracking-related requirements suggested in the comments include information on water storage and use; linking reporting across state agencies; well-drilling and irrigation records; specific provisions for bulk water haulers; analyzing water diversion rates and periods; procedures for drought/forced water restrictions; periodic system-wide review; and leak detection assessment. Other comments provide specific water-saving techniques or technologies.

Land use and planning comments include concerns associated with housing shortages, improper planning and construction practices, increased coastal development, establishing proper setbacks from sensitive receptors and habitats, not allowing cultivation on public lands, land use violations, proper transportation routes/emergency access for cultivation sites, physical division of established communities, and numerous recommendations related to the specific CalCannabis Cultivation Licensing allowances and restrictions, including square footage.

Noise-related comments include a suggestion to use noise complaints as a significant impact under the CEQA checklist, proper study of varying noise levels, excess noise exposure, and traffic and/or mechanical equipment noise at cultivation sites.

Population and housing concerns are associated with population growth in communities as a result of cannabis cultivation, and housing shortages due to increased real estate property values from real estate demand for cannabis cultivation.

Public services-related comments expressed the following concerns and recommendations: effects on emergency response and evacuation; restricting the use of agricultural water for cannabis irrigation; costs to local and county departments for a potential need for increased law enforcement and public service agencies (police, fire); driving while drugged and associated safety risks; harassment and rights violations from law enforcement towards growers; potential increased crime; required law enforcement training on the CalCannabis Cultivation Licensing regulations; establishing new sheriff sub-stations near cultivation sites; and adequate security at Board of Equalization district offices.

Recreation comments include concerns that outdoor cannabis would affect public recreational trails, and the loss of recreational facilities from conversion of coastal land to cultivation sites.
- **Transportation and traffic**-related concerns include increase in use of public and private roads to and from cultivation sites, illegal road construction, and increases in development of parking lots.

- **Utilities and service systems** comments include concerns associated with solid waste/trash accumulation and disposal near or within cultivation sites; use of substandard septic systems; increased demands on utilities regarding electrical, mechanical, and plumbing infrastructure; and compliance with solid waste regulations. Recommended actions include studying possible need for wastewater system expansions, implementing remedial programs that provide waste disposal for cultivators, and preparing a waste management plan.

- **Alternatives analysis**-related comments generally request a detailed and complete consideration of alternatives in the PEIR, including a focus on how alternatives would comply with applicable regulations, reduce cannabis-related GHG emissions, and avoid or minimize watershed and special-status species impacts.

- **Cumulative considerations** comments express concerns regarding cumulative impacts on biological resources, sensitive natural areas or natural resources, and watersheds; indoor cultivation activities and corresponding GHG emissions; growth and influx of people and associated economic, health and safety impacts; impacts of other manufacturing, distribution, transportation, testing, and dispensary sites; and the effects of delayed enforcement.

- Comments on the **overall CEQA process for the PEIR** include appreciation for the scoping meetings and the opportunity for the public to provide comment. Some comments did not favor the scoping meeting format or the NOP. Other comments were submitted regarding administrative and technical questions concerning the scoping meetings.

**Other Comments Outside the Scope of the PEIR**

In addition to comments directly related to the regulations and the PEIR topics, comments were submitted on topics that are potentially outside of CDFA’s jurisdiction and/or are broader cannabis-related social or economic topics. These are summarized as follows:

- concerns about potential increased cannabis demand,
- offers of assistance in developing the regulations and requests to meet with CDFA staff,
- requests to provide the public with a compiled list of local government agencies, and
general comments indicating support or opposition towards the CalCannabis Cultivation Licensing and legalization of cannabis as a whole.
Next Steps

Development of Regulations

Comments received in the scoping process that relate to the scope and content of the regulations will be used to inform the development of the CalCannabis Cultivation Licensing. CDFA will review comments, questions, and solicited feedback pertaining to the program’s regulatory goals; and consider the best ways to implement the requirements of the Medical Cannabis Regulation and Safety Act and the Adult Use of Marijuana Act. The following topics will be addressed in the regulations:

- definitions;
- applications for cultivation licenses;
- licensing fees and requirements;
- cultivation site requirements;
- track-and-trace requirements, records, and reporting;
- inspections; and
- enforcement.

Development of Draft PEIR

Comments that relate to the scope and content of the CEQA analysis will be used to inform the analysis contained in the draft PEIR. The draft PEIR is anticipated to be available for public review and comment in the summer of 2017.

Ongoing Outreach

Outreach will occur through the program’s webpage and mailings. Interested parties who want to receive automatic program updates via email can sign up at for the CalCannabis Cultivation Licensing listserv at www.cdfa.ca.gov/calcannabis/subscribe.html. Those with questions are encouraged to send an email to the following address: calcannabis@cdfa.ca.gov; or call (916) 263-0801. Questions can also be mailed directly to Lindsay Rains, Senior Environmental Scientist, at the following address:

California Department of Food and Agriculture
Attn: Lindsay Rains
CalCannabis Cultivation Licensing Comments
1220 N Street, Suite 400
Sacramento, CA 95814

Program Website Updates

The CalCannabis Cultivation Licensing website (calcannabis.cdfa.ca.gov) will be available to the public throughout the CEQA process. The website will be updated for the public to
review as additional information becomes available about the program or the CEQA process. This will include notice regarding circulation of proposed regulations, the draft PEIR, and notification of public comment periods for these documents.

Other Opportunities for Public Involvement during the Regulation Development

The public will have the opportunity to submit comments on the proposed regulations. CDFA will announce the availability of draft regulations and the comment period through its listserv and other means. The proposed regulations will be made available for download in electronic format on the website, and, to the extent feasible, as a hard copy upon written request to CDFA. Interested individuals, agencies, and organizations will be able to submit comments throughout the comment period, either via email or by mailing comments to CDFA, as directed.

Other Opportunities for Public Involvement in the PEIR

The public will have the opportunity to submit comments during a 45-day public review period for the draft PEIR. The comment period will begin with circulation of the draft PEIR. CDFA will announce the availability of the draft PEIR and comment period by issuing a public Notice of Availability (NOA) to the State Clearinghouse, the 58 California county clerks, responsible and trustee agencies, agencies with jurisdiction by law, and other interested individuals and agencies who have joined the program listserv or otherwise requested notice (via standard mail and/or email). CDFA will also post the NOA on the program website and issue newspaper announcements as appropriate. The draft PEIR will be made available for download in electronic format on the website, at a variety of libraries throughout the state, and, to the extent feasible, as a hard copy upon written request to CDFA. Interested individuals, agencies and organizations will be able to submit comments throughout the comment period, either online or by emailing or mailing comments to CDFA, as directed in the NOA.

During the public review period CDFA also will conduct public workshops throughout California at accessible locations, similar to those conducted during the scoping period.
Chapter 1
INTRODUCTION

Background

In late 2015, the State Legislature passed, and Governor Brown signed into law, the Medical Cannabis Regulation and Safety Act (Act). This Act, initially consisting of three separate bills (Assembly Bills 243 and 266, and Senate Bill 643) and subsequently amended (e.g., Assembly Bills 2516, 1575, and 21), outlines a new structure for regulation and enforcement of medical cannabis production and use in California. The Act addresses issues such as cultivation, manufacture of cannabis products, quality control and inspection, distribution, dispensaries, and prescriptions for patients.

The Act establishes new licensing procedures for various aspects of the production process and identifies a number of state agency responsibilities. The Act includes tasking the California Department of Food and Agriculture (CDFA) with licensing medical cannabis cultivation and establishing a “track and trace” system. The track-and-trace system involves development of a unique identifier for each plant, a reporting system, fees, and documenting the transport path of plants from cultivation to distribution as a medicinal cannabis product.

In November 2016, the Adult Use of Marijuana Act was voted into law, triggering the expansion of CDFA’s cultivation licensing program to include adult-use (nonmedical) cannabis cultivation activities.

In compliance with the Acts’ requirements, CDFA is developing regulations to establish a licensing program for medical and adult-use (nonmedical) cannabis cultivation and to establish a track-and-trace system. These are collectively referred to as the CalCannabis Cultivation Licensing program (program, or proposed program). CDFA is preparing a program environmental impact report (PEIR) to provide the public, responsible agencies, trustee agencies, and permitting agencies with information about the potential environmental effects associated with the adoption and implementation of these statewide regulations. The PEIR will be prepared by CDFA in accordance with the provisions of the California Environmental Quality Act (CEQA) and the State CEQA Guidelines. CDFA will be the lead agency pursuant to CEQA and will consider CEQA-related comments from responsible and trustee agencies, property owners, and interested persons and parties regarding the scope and content of the environmental information to be included in the PEIR.
Overview

This Scoping Report summarizes the comments and questions raised during the public scoping period for the preparation of a PEIR by the CDFA for the CalCannabis Cultivation Licensing program. In addition, this report summarizes comments regarding CalCannabis Cultivation Licensing proposed regulations, which were also solicited during the scoping process, not all of which are directly related to the CEQA process or the PEIR's scope and content.

Scoping is the process conducted to determine the coverage, focus, and content of the PEIR as prescribed by CEQA. Scoping helps to identify the range of actions, alternatives, environmental effects, and mitigation measures for in-depth analysis in the PEIR. This process also helps to select methods of assessment and to eliminate from detailed study those issues that are not relevant to the project or required under CEQA. In addition, scoping is an effective way to identify and consolidate the concerns of any interested parties, which may include project proponents and opponents, and interested federal, state, and local agencies, among others. The scoping process for the PEIR is described in more detail in Chapter 2 of this Scoping Report.

As part of the scoping process, CDFA requested feedback on seven goals to inform development of the Program regulations. The seven regulatory goals were as follows:

- **Regulatory Goal 1:** Define Terms Used in Cannabis Cultivation.
- **Regulatory Goal 2:** Define the Application Process and Requirements for Licensing.
- **Regulatory Goal 3:** Identify the Cultivator License Types by Light Source and Site Size; Clarify Allowable License Combinations; Outline Renewal Process and Set Licensing Fees.
- **Regulatory Goal 4:** Specify Requirements to Mitigate Environmental Health and Public Safety Issues.
- **Regulatory Goal 5:** Outline Cultivator Responsibilities for Compliance Inspection.
- **Regulatory Goal 6:** Specify Track-and-Trace Requirements.
- **Regulatory Goal 7:** State License Violations and Appropriate Penalties.

In addition, CDFA requested feedback on defining and analyzing license types for cannabis cultivation. The currently proposed license types are:

- “Specialty Cottage Outdoor” for an outdoor cultivation site with up to 25 mature plants.
- “Specialty Cottage Indoor” for an indoor cultivation site with 500 square feet or less of total canopy.
- “Specialty Cottage Mixed-Light” for a mixed-light cultivation site with 2,500 square feet or less of total canopy.
“Specialty Outdoor” for an outdoor cultivation site with less than or equal to 5,000 square feet of total canopy, or up to 50 mature plants on noncontiguous plots.

“Specialty Indoor” for an indoor cultivation site with 501 to 5,000 square feet of total canopy.

“Specialty Mixed-Light” for a mixed-light cultivation site with 2,501 to 5,000 square feet of total canopy.

“Small Outdoor” for an outdoor cultivation site with 5,001 to 10,000 square feet of total canopy.

“Small Indoor” for an indoor cultivation site with 5,001 to 10,000 square feet of total canopy.

“Small Mixed-Light” for a mixed-light cultivation site with 5,001 to 10,000 square feet of total canopy.

“Medium Outdoor” for an outdoor cultivation site with 10,001 square feet to one acre of total canopy.

“Medium Indoor” for an indoor cultivation site with 10,001 to 22,000 square feet of total canopy.

“Medium Mixed-Light” for a mixed-light cultivation site with 10,001 to 22,000 square feet of total canopy.

“Nursery” for cultivation of cannabis solely as a nursery.

“Processor” for a cultivation site that conducts only trimming, drying, curing, grading or packing of cannabis and nonmanufactured cannabis products.

“Producing Dispensary” for dispensers who have no more than three licensed dispensary facilities and wish to hold either a cultivation or manufacturing license or both. Cultivation shall be limited to no more than 4 acres of total canopy.¹

The intended use of this Scoping Report is to assist CDFA with development of regulations, inform the public regarding key issues that have been identified, and incorporate CEQA-related comments into the PEIR’s administrative record. As such, this Scoping Report includes:

- a summary of the public scoping process,
- a summary of key issues identified during the scoping period, and
- a description of future steps to be taken in the environmental review process.

¹ Note that the Bureau of Marijuana Control, not CDFA, issues Producing Dispensary licenses; however, Producing Dispensaries that wish to cultivate must also hold a cultivation license from CDFA.
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Chapter 2

**CEQA Scoping Process**

The California Environmental Quality Act (CEQA) Guidelines provide guidance for the scoping process. Scoping has the following general objectives:

1. to identify the concerns of the affected public and agencies;
2. to help define the issues and alternatives that will be examined in detail in the program environmental impact report (PEIR), while simultaneously assisting in the identification of issues that are of little or no concern; and
3. to appropriately scale the environmental review process by obtaining early feedback on the scope and content of the PEIR.

The California Department of Food and Agriculture (CDFA) is committed to a planning process that includes strong public involvement. The process will be based on sound science, and be open and transparent.

**Notice of Preparation**

CEQA requires formal public announcement of the intent to prepare an environmental impact report for a proposed project. In compliance with the State CEQA Guidelines (Title 14, California Code of Regulations, Section 15082), CDFA issued a Notice of Preparation (NOP) on September 1, 2016, and a revised Notice of Preparation on April 27, 2017 (see Appendix A; all appendices are available for viewing at calcannabis.cdfa.ca.gov). Each NOP presented general background information on the Program, the scoping process, the environmental uses to be addressed in the PEIR, and the anticipated uses of the PEIR.

Each NOP invited the public to offer comments and attend workshops during two separate 30-day scoping periods – September 1 through September 30, 2016, and April 27, 2017 through May 26, 2017. Some comments were received after the close of each scoping period; these comments were still considered in developing this Scoping Report.

Each NOP was mailed to each of the 58 California county clerks, responsible and trustee agencies, agencies with jurisdiction by law, as well as other interested individuals, agencies and organizations. The NOP mailing list and related Program contact information are included in Appendix B.

**Public Outreach**

The public notice and scoping workshop information was published in *Eureka Times Standard, Redding Record Searchlight, The Sacramento Bee, Oakland Tribune, San Luis Obispo Tribune, The Fresno Bee, Los Angeles Times, Riverside Press Enterprise*, and CDFA’s website (calcannabis.cdfa.ca.gov). Affidavits certifying publication of newspaper notices are
included in Appendix C. Table 1 lists the NOP publication date and county of coverage for each newspaper.

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<thead>
<tr>
<th>Newspaper Notices</th>
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<tr>
<td><strong>Newspaper</strong></td>
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<tr>
<td>Eureka Times Standard</td>
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<td>Los Angeles Times</td>
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<td>Riverside Press Enterprise</td>
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In addition, the scoping information was provided to the following news media outlets as a public service announcement the week prior and/or the week of the workshop.

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<th>Public Service Announcements</th>
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<tr>
<td>Eureka KMUD</td>
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<tr>
<td>Oakland KQED</td>
</tr>
<tr>
<td>San Luis Obispo KVEC</td>
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<tr>
<td>Coalinga KTEA</td>
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<tr>
<td>Desert Hot Springs KNWQ</td>
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Public Workshops

To provide the public and regulatory agencies with an opportunity to ask questions and provide comments on the scope of the PEIR, eight public scoping workshops were held during the September 2016 NOP review period. CDFA conducted these workshops at different locations throughout the state because of the program’s standing as a “project of statewide, regional, or area wide significance.” The workshops were held to solicit input from the public and interested public agencies regarding the nature and scope of environmental impacts to be addressed in the draft PEIR. Approximately 968 individuals attended the workshops. The scoping workshop dates, times, and locations were as follows:

- **September 13, 2016, 4–7 p.m.**
  - Sacramento Convention Center (Room 202)
  - 1400 J Street, Room 202
  - Sacramento, CA 95814

- **September 14, 2016, 4–7 p.m.**
  - Red Lion Hotel (Sierra Room)
  - 1830 Hilltop Drive
  - Redding, CA 96002

- **September 15, 2016, 4–7 p.m.**
  - Red Lion Hotel (Pacific Room)
  - 1929 4th Street
  - Eureka, CA 95501

- **September 21, 2016, 4–7 p.m.**
  - Courtyard by Marriott (Grand Ballroom)
  - 1605 Calle Joaquin
  - San Luis Obispo, CA 93405

- **September 22, 2016, 4–7 p.m.**
  - Harris Ranch (Garden Ballroom)
  - 24505 West Dorris Aveue
  - Coalinga, CA 93210

- **September 27, 2016, 4–7 p.m.**
  - Pasadena Convention Center (Ballroom F)
  - 300 East Green Street
  - Pasadena, CA 91101
Workshop Format

All workshops used the same format, and interested parties were invited to attend one or all workshops. At each workshop location, CDFA staff welcomed attendees. At the greeting table, guests were asked to sign-in and were given a brief description of the available handouts, the open workshop format, and the process for submitting comments. Handouts provided included copies of the NOP (Appendix A); Pre-Regulation Workshop Survey (Appendix D); Frequently Asked Questions and the program and environmental review process (Appendix E), Program Fact Sheet Summary (Appendix F); and Summary of Statute and Regulatory Goals (Appendix G). Comment forms (Appendix H) were available for guests to use for written comments, either at the workshop or at a later date. These items were also available as downloads on the CDFA CalCannabis website.

The room was divided into topical stations, each of which included several poster boards (Appendix J) with information about various aspects of the program and CEQA process. Each station was manned by CDFA and/or consultant staff to answer questions and help describe the regulatory and PEIR processes. A court reporter was also available at each meeting to take oral comments. Additionally, a looping 10-minute Microsoft PowerPoint presentation was available for viewing throughout the workshop (Appendix I). The PowerPoint presentation and posters were available on the CDFA CalCannabis website.

Participating Staff

The following CDFA representatives and supporting consultants participated in one or more of the scoping workshops:

<table>
<thead>
<tr>
<th>Department of Food and Agriculture</th>
<th>Enercon Services, Inc.</th>
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<tbody>
<tr>
<td>Amber Morris</td>
<td>Tom Trexler</td>
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<tr>
<td>Crystal D'Souza</td>
<td>Jeff Warshauer</td>
</tr>
<tr>
<td>Michele Dias</td>
<td>Michael Smith</td>
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<tr>
<td>Lindsay Rains</td>
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<tr>
<th>Horizon Water and Environment, LLC</th>
<th>Nicholas Communication</th>
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<tr>
<td>Michael Stevenson</td>
<td>Rebecca Nicholas</td>
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<tr>
<td>Megan Giglin</td>
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<td>Julie Allison</td>
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<tr>
<th>Blankinship and Associates, Inc.</th>
<th>Ardea Consulting</th>
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<tbody>
<tr>
<td>Mike Blankinship</td>
<td>Joe Sullivan</td>
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Workshop Attendance

At each workshop, attendees were asked but were not required to sign in and provide contact information. Copies of attendance sheets are provided in Appendix K.

Comments Received

Oral Comments

A total of 47 individuals provided oral comments during the public workshops.

Written Comments

Agencies, organizations, and individuals provided written responses to the NOP by submitting electronic mail (email) or hand-written comment or speaker cards during the scoping periods. Out of a total of 407 written comments received, 339 were emails, 44 were mailed letters, 20 were comment cards, and four were handouts (Table 3).

<table>
<thead>
<tr>
<th>Entity Type</th>
<th>Emails</th>
<th>Comment Cards</th>
<th>Handouts</th>
</tr>
</thead>
<tbody>
<tr>
<td>State/Federal Agencies</td>
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<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Local and Regional Agencies</td>
<td>25</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Native American Tribes and Affiliated Organizations</td>
<td>14</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Organizations</td>
<td>38</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Individuals/Landowners/Local Residents</td>
<td>251</td>
<td>17</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>339</td>
<td>20</td>
<td>4</td>
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</table>

Near the conclusion of each workshop, CDFA staff reminded attendees that written comments would be accepted anytime during the scoping period.
Chapter 3

SUMMARY OF COMMENTS RECEIVED

All comments received in response to the two Notices of Preparation (NOPs) will be considered during preparation of the draft program environmental impact report (PEIR). Oral comments received during the September 2016 scoping workshops were documented by a certified court reporter. Transcripts of these comments, along with comment cards and hard copy handouts and letters submitted during the meetings, are included in Appendix K. In addition to these meetings, a total of 339 comments were received via email during the scoping periods and are included in Appendix O. Figure 1 provides a geographic depiction of the physical locations of commenters, as provided by commenters. All appendices are available for viewing at calcannabis.cdfa.ca.gov.

Review of Scoping Comments Received

To ensure that a neutral and transparent analysis is used to review and categorize all public comments received, this Scoping Report includes copies of the original documents submitted (see Appendices L, M, N, and O). The issues presented in this section are not intended to replicate the comments received verbatim, but rather to provide a synopsis of the comments received and capture the general views and opinions of the commenters.

The following pages summarize the comments received and report them categorically under specific comment categories pertaining to the CalCannabis Cultivation Licensing (program, or proposed program) regulations and PEIR. These categories are listed below.

Comment Categories Relevant to the Proposed Program Regulations:

- Regulatory Goal Responses (Regulatory Goals Nos. 1 through 7) (pages 3-4 through 3-12 of this report)
- License Types Sought (pages 3-12 through 3-13)
- Type 3 License Limits (page 3-13)
- Nurseries (page 3-14)
- Inspections and Records (pages 3-14 through 3-15)
- Track and Trace (pages 3-15 through 3-18)
- Other (pages 3-18 through 3-21)
Appendix D

Comments Received by Location

Notes: Of 404 total comments, 239 included one or more type of location-based information (city, ZIP Code, or phone number); 165 contained no location-based information.

Comment origin locations were determined first by city or ZIP Code. Where no city or ZIP Code were provided, telephone area codes and prefixes were used.

Count of Comments by Location

Out-of-State Comments:
AZ (1), CO (3), FL (3), GA (1), IL (1), MD (1), NJ (1), NV (2), OR (3), TX (1), The Netherlands (1)
Comment Categories Relevant to Program Description Development and the Environmental Review of Resource Areas in Appendix G of the State CEQA Guidelines:

- General Cultivation Practices (pages 3-21 through 3-23)
- Aesthetics (page 3-23)
- Agriculture and Forestry (pages 3-23 through 3-24)
- Air Quality and Odor (pages 3-24 through 3-25)
- Biological Resources (pages 3-25 through 3-28)
- Cultural Resources and Tribal Cultural Resources (page 3-28)
- Geology and Seismicity (page 3-29)
- Energy Use and Greenhouse Gas Emissions (pages 3-29 through 3-31)
- Hazards, Hazardous Materials, and Human Health (pages 3-31 through 3-32)
- Hydrology and Water Quality (pages 3-32 through 3-36)
- Land Use and Planning (pages 3-36 through 3-39)
- Noise (page 3-39)
- Population and Housing (page 3-39)
- Public Services (pages 3-39 through 3-40)
- Recreation (page 3-40)
- Transportation and Traffic (pages 3-40 through 3-41)
- Utilities and Service Systems (page 3-41)
- Alternative Analysis (pages 3-41 through 3-42)
- Cumulative Considerations (page 3-42)
- PEIR CEQA Process (pages 3-42 through 3-43)
- Others (pages 3-43 through 3-44)

The following briefly summarizes the major perspectives from review of all comments. Parenthesized numbers next to each summarized issue correspond to individual comment letter codes, to aid in identifying the source(s) of each comment (see Appendices L through O).
Comment Categories Relevant to Proposed Program Regulations

The following comments received pertain to Proposed Program regulations.

Regulatory Goal Responses (Regulatory Goals Nos. 1 through 7)

Goal #1: Define Terms Used in Cannabis Cultivation.

Canopy

- Should be defined as the aerial or **birds eye view** of mature plant coverage excluding aisles and rows between plants. By definition the canopy would be measured by the outer edge of the upper portion of the mature plant. (1) (11) (14) (15) (16) (22) (23) (34) (40) (50) (61) (65) (68) (76) (77) (78) (80) (81) (89) (141) (148) (165) (169) (171) (176) (179) (180) (184) (192) (193) (199) (248) (267) (268) (272) (274) (275) (280) (368)
  - Should be defined as the square footage measurement of **surface medium**. For example, a two-foot by two-foot grow bed would equal four square feet of canopy. This could also refer to the exterior dimensions of a greenhouse or cultivation area. Concerns associated with individual plant canopy being too variable to measure effectively. (2) (12) (24) (39) (41) (42) (44) (84) (114) (117) (129) (142) (144) (146) (148) (183) (246) (271) (333)
  - Should be defined as the **top third layer of the foliage** of one or more plants. (56)

Flowering

- Associated with the process where the **plant begins to bloom and produce a flower** or harvestable "bud." Indoor flowering periods are often triggered by periods of less than 12 hours of light a day. (1) (3) (11) (12) (14) (15) (16) (24) (39) (40) (41) (42) (50) (56) (61) (65) (76) (78) (80) (81) (89) (114) (117) (129) (144) (146) (148) (169) (171) (176) (179) (180) (184) (192) (193) (248) (268) (275) (280) (368)
  - The **final stage of cultivation** prior to harvest. (2) (23)
  - Recommendation to incorporate the word **mature** into the definition of flowering. (34)

Immature

- Should be defined as the **beginning stages of the growth cycle** including sprouting and vegetative growth, up until right before the flowering stage. (1) (2) (5) (11) (12) (22) (23) (24) (34) (56) (76) (80) (81) (84) (89) (114) (117) (129) (144) (148) (169) (171) (176) (267) (268) (275) (333) (368)
Recommendation to replace this term with “vegetative.” (16) (34) (42) (129) (146) (184)

For plants grown with artificial or mixed-light, associated with plants grown with 18 or more hours of light. (41) (78)

Should be defined as a plant less than 8 inches tall or less than 3 months old. (51) (77) (84) (180) (199) (274)

Mixed-Light Cultivation

Associated with cultivation within greenhouses where synthetic light is added in addition to natural light during periods of low sun in order to prolong typical growing seasons. Often characterized by a retractable or transparent roof that can be covered. (1) (2) (5) (11) (12) (15) (16) (22) (24) (34) (39) (40) (41) (50) (56) (61) (65) (66) (76) (77) (80) (81) (114) (117) (141) (144) (146) (165) (169) (179) (180) (184) (192) (248) (267) (268) (274) (275) (280) (333)

Associated with starting the juvenile plants under grow lights before being moved outdoors. (42) (176) (183)

Recommendation to divide “mixed-light” into two tiers based on wattage per square foot and/or number of harvests per year. (78)

Premises

Should be defined as the physically segregated portion of a parcel designated for cultivation. This could include the entire parcel or limited sections depending on the use. (2) (5) (11) (12) (14) (15) (16) (22) (23) (24) (40) (44) (51) (56) (76) (77) (78) (80) (81) (114) (129) (141) (148) (165) (169) (176) (192) (267) (280) (333)

Should be defined by the parcel boundary or property line of the licensee-operated business. (41) (61) (65) (84) (89) (146) (171) (176) (180) (183) (184) (192) (199) (246) (274) (275) (368)

Propagation

Associated with starting plant growth either from seed or clone. (2) (16) (23) (42) (56) (61) (65) (76) (77) (78) (80) (81) (84) (114) (129) (146) (169) (171) (176) (180) (183) (192) (267) (274) (275) (333) (368)

Should be defined as the reproduction of a specific plant strain or characteristic. (11) (12) (15) (24) (41) (42) (148) (199)

Should be defined as the period two to three months before planting, cloning, and transplanting plants into the ground to establish a healthy crop. (14)

Should be defined as producing one’s own seeds or clones. (39) (40) (89)

Other

Regulations should define “wholesale” and “retail” nurseries. (96)
Goal #2: Define the Application Process and Requirements for Licensing.

The Program is considering using an online application process, as well as a traditional paper method. Which application method would you prefer?


- Concern about the lack of access that some cultivators have to internet and suggest that local agriculture offices should be able to assist cultivators with completing an application. (12) (78) (87) (142)

The Program is considering a weapons and firearm ban at cultivation sites to protect State enforcement staff. How will that affect you?

- Concerns over ability to protect self and property in remote areas without access to firearms when dealing with wild predators and delayed law enforcement response times. (1) (11) (14) (34) (41) (65) (78) (87) (117) (137) (141) (145) (146) (168) (169) (183) (190) (268) (271) (275) (280) (334) (339) (164) (312)

- Recommendation to allow licensed security guards to protect cultivation sites in the event of a firearms ban. (2) (11) (39) (49) (50) (76) (80) (175) (179) (180) (193) (271) (274)

- Recommendation to implement a weapons and firearms ban. (8) (15) (61) (72) (82) (88) (147) (182) (272) (276) (333)


- Concerns over the inability of a cultivator to properly protect their operations if firearms were restricted. (12) (17) (34) (80) (114) (144) (186) (192) (194) (195) (196) (199) (246)

- Concerns associated with feeling unsafe if weapons and firearms on cultivation sites are prohibited. (70) (105) (136) (137) (164) (312)

- Concerns associated with firearms on licensed cannabis cultivation sites. (98) (100) (147) (282)

- Since some growers are conducting cannabis cultivation operations inside of residences, recommendation to establish a setback limit beyond homes where firearms are not allowed. (246)
**How many applications do you anticipate submitting?**

- Planning to submit **up to 10 applications**. (2) (34) (41) (56) (87) (195) (275) (333)

**Goal #3: Identify the Cultivators License Types by Light Source and Site Size; Clarify Allowable License Combinations; Outline Renewal Process and Set Licensing Fees.**

**What is the acreage you feel is reasonable for the cap? How about for indoor and mixed light? How will this impact your business model?**

- Concerns associated with a **4-acre restriction**, as corporations are allowed to grow and compete with smaller farmers. (1) (41) (129)
- Recommendation to allow for **individual parcel limitations** as long as cultivators can have multiple licenses for multiple locations. (11) (15) (16) (42) (61)
- Recommendation that outdoor grows should have **less size restrictions** than mixed-light and indoor grows. (12) (8) (17) (23) (39) (56) (171) (190) (192) (273) (368)
- Recommendation to **not finalize the site restrictions** until a more accurate evaluation of consumer demand is determined. (24) (34) (51) (81) (180) (186) (267)
- Recommendation to include **Type 4 licenses** in the same 4-acre limit as the other license types. (34)
- Concern that certain counties and cities (e.g., Humboldt) have **already permitted cultivation plans** in excess of 4 acres. (34)
- Concern that **4 acres is too large** and would prefer stricter restrictions. (72) (88) (89) (114) (142) (145) (146) (165) (174) (190) (193)

**When does a cultivator also need a manufacturing license? Are joints, dry sieving, and water concentrating a form of manufacturing or within the scope of cultivation?**

- Recommendation to **not require manufacturing licenses** for cannabis production farms which are by nature suited to perform **dry sieving for “kief” or “shake” as well as joint rolling** to sell to a dispensary. (24) (34) (42) (61) (77) (78) (81) (89) (129) (143) (146) (180) (186) (190) (193) (196) (274) (333)
- Recommendation to require a manufacturing license for the use of carbon dioxide, hydrocarbons, or other **chemical solvents** to extract resin. (39) (72) (77) (78) (81) (142) (143) (192) (193) (274)
Concern that any action taken to modify and/or add materials to cultivated product must perform **quality control and be regulated as manufacturing** and subject to necessary license. (40) (114) (183) (267) (272)

Recommendation to **require a manufacturing license** for any cultivator that wishes to **trim, process, or in any way add value** to their product. (50) (72) (174) (248)

All fees (application, licensing, penalties, etc.) should reflect the full cost of maintaining and providing environmental protection, monitoring, and restoration. (46) (100) (136) (282)

Concerns associated with the **impacts of cannabis taxation and fees** on growers, especially small growers. (122) (236) (308) (323) (70)

**How many separately licensed cultivation sites would you like to apply for?**

- The **ability to cultivate, manufacture, and transport** product are main functions of our business model. (1)
- Plans to request **multiple cultivator licenses**. (15) (24) (42) (50) (114) (117) (141) (144) (145) (190)
- Would request **all or most licensing types**. (41) (56)

**What do you think is a reasonable amount of lighting to be used and still be considered a mixed-light cultivation site?**

- Recommendation that a reasonable mixed-light grow operation is approximately **40,000 watts or +/- 40 lights**. (1)
- Recommendation to not restrict the use of supplemental lighting but encourage or require use of **solar** and renewable energy sources and/or efficient lighting such as **LED**. (11) (14) (275)
- Concerns about being able to appropriately determine lighting limitations given **locational differences and personal preferences** in cultivation style. (12) (24) (34) (39) (41) (89)
- Recommendation to have the threshold set at approximately **35 to 50 watts per square foot**. (16) (56) (88) (143) (145) (171) (186)
- Recommendation to **set limitations on what is safe for the building** or structure to handle, in regards to fire hazards. (42)
- Recommendation to **prohibit artificial lights**. (65)

**The Program is required to limit the number of Type 3 (largest license type) licenses issued. What method do you consider fair for establishing these limits?**

- Concerns that Type 3 licenses would be **unobtainable to small local farmers** and communities due to prior convictions and/or lack of financial resources resulting in large monopolies. (1) (12) (42)
- Recommendation to limit Type 3 licenses based on applicant’s experience in running large-scale operations, proximity to populated area, security, and environmental impacts. (2) (15) (61) (81) (180) (333)
- Recommendation to base Type 3 license distribution based on climate and local regulations. (11) (39) (42) (56) (81) (141) (143) (144) (171) (192) (267) (272)
- Concerns that the size of Type 3 licenses promotes lower grade cannabis with limited medicinal benefit and should be highly restricted. (14) (88) (145)
- Concerns that the limitation on Type 3 Licenses would not allow cultivators to redeem licensing and operation costs. (24) (34) (41) (44) (61) (76) (174)
- Recommendation to prohibit or restrict Type 3 license until the consumer demand is better evaluated. (40) (114) (129) (193)

Goal #4: Specify Requirements to Mitigate Environmental Health and Public Safety Issues.

How do you currently address potential environmental impacts at a cultivation site?

- Recommendation to require USDA farm spray logs for pesticides and odor control for indoor facilities. (2) (333)
- Recommendation to treat the growing of cannabis just like any other farmed crop, such as grapes for wine production. (24)

Do you conduct targeted pesticide use?

- Recommendation to incorporate the use of organic chemicals and preventative measures, such as neem, olive oil, garlic, ladybugs, castile soap to treat mildew and pests. (14) (39) (56) (88) (89) (117) (165) (168) (169) (268) (272) (273) (368)
- Recommendation to allow targeted pesticide use when determined to be necessary to prevent the contamination of the facility or spread of disease/pests. (24) (40) (42) (50) (61) (77) (78) (81) (148) (267)

Do you use optimal watering times? Do you recycle water and/or cultivation materials?

- Recommendation to require green waste from the cultivation process to be used to amend soil. (24) (34) (39) (42) (56) (65) (77) (80) (88) (89) (114) (141) (143) (168) (183) (280)
How do you currently secure your cultivation site? Alarm system? Fencing? Security guard?

- Recommendation to require a dwelling unit on site as well as for the property to be securely fenced. (16) (368)

Do you sell plants to a dispensary for sale to patients? Or do you sell plants to cultivators for flower production? How much research and development goes on at a nursery site? Do you regularly propagate from seed?

- Distributes clones and juvenile plants to members of collective. (14) (15) (61) (65) (117) (146) (173) (192) (274)
- Distributes clones and juvenile plants to cultivators and dispensaries. (15) (39) (40) (56) (61) (78) (114) (142) (173) (192) (280)
- Distributes solely to a distributor and not to retail. (24)
- Concern that seed propagation must occur at a nursery because the strains are engineered to produce limited to no seeds. (50)

Goal #5: Outline Cultivator Responsibilities for Compliance Inspection.

What measures do you currently take to make your site safe for inspection?

- Recommendations to have open communication with regulators and notification prior to inspections. (5) (11) (12) (23) (24) (34) (40) (42) (146) (169) (275)

What type of records do you currently retain?

- Concerns associated with the lack of record keeping at cultivation sites. (12) (65) (196)
- Recommendation to require seller’s permit and patient recommendations to be retained on the premises. (14) (34)
- Recommendation to require business-related documents including: expense reports, time frame of activity, inspection reports, production weights, QA/QC reports, and other documents related to the cultivation activity. (15) (24) (40) (61) (88) (129) (144) (180) (192) (193) (268)
- Recommendation for a mandatory 2-year filing period for any documents related to cultivation. (16)
Recommendation to require **material records** including water/feeding records, compost tea recipes, fertilizers, pesticides, and fungicides. (39) (40) (41) (81) (129) (141) (142) (143) 

Recommendation to **require employee training, tax, and sanitation records**. (40) (42) (180)

**Goal #6: Specify Track and Trace Requirements**

Recommendation to **track produced product by batch number and purchase order** from the time the plant is a seed or clone and throughout its life stages all the way until distribution. (2) (11) (12) (15) (40) (61) (78) (142) (145) (171) (187) (192) (333) (358)

Recommendation to follow and implement the **same requirements the California Department of Public Health** uses to track produce. (6) (129)

Recommendation that plant count should be **tracked at cloning or planting**. (14) (8)

Recommendation to implement a **risk-based inspection system (RBIS)** that works by targeting businesses that are most likely to be non-compliant with laws and regulations. (23) (84)

Recommendation to **barcode (QR Code) plants** so they can be easily tracked from seed to shelf by regulator, cultivator, and buyer. (24) (267)

**Goal #7: State License Violations and Appropriate Penalties**

Recommendation that a **violation should be handled in one month**, 30-days, which is a desired time for a noncompliance hearing to be held. (1) (12) (50) (51) (62) (72) (76) (81) (114) (117) (143) (169) (179) (194) (273)

Recommendation that license appeals and similar offenses should preferably be handled **within 60 to 90 days**. (15) (40) (61) (144) (192) (272) (276)

Recommendation to **revoke licenses** in cases of complete disregard for proper adherence to program. (2) (16) (23)

Recommendation to establish a **scoring system** of penalties. (11)

Recommendation to have **inspector work with licensee** to immediately fix non-compliance issue. (24)

Recommendation to define as **minor offenses incidents** beyond cultivator control or correctable violations such as reporting errors which could be immediately resolved. (6) (12) (8) (15) (23) (24) (40) (50) (51) (56) (61) (76) (78) (81) (84) (88) (143) (144) (169) (171) (268) (273)

Recommendation to define **serious violations with irreversible environmental hazards and pollution, mistreatment of employees, illegal activities** such as illicit drug sales, and disrupting the local community. (1) (2) (12) (15) (16) (23)
Recommendation to define serious violations with intentional sale of product to an unauthorized purchaser and/or the unrecorded sale of cannabis. (40)

License Types Sought

- Clarify any production size requirements or limitations on a Type 4 license since the law does not provide any clarification for this. (96)
- Concerns associated with the overall limit on the number of cultivation licenses that any one applicant or parcel may hold. (80) (232) (233) (265) (268) (308) (9) (32) (360) (44) (154) (174) (232) (391)
- Concerns associated with the total area/acreage that an applicant may place under cultivation. (8) (9) (72) (154) (8) (72) (174) (346)
- Suggestions regarding the circumstances when a manufacturing license would be needed in addition to a cultivation license. (174) (267)
- Require a separate license for any manipulation to the cannabis plant that would be considered manufacturing a cannabis product, such as joints, dry sieving, and water concentrating. (8) (72)
- Concerns associated with the simplicity and adaptability of licensing rules. (32)
- Concerns associated with licensing and application costs. (32) (36) (100) (136) (161) (194) (268) (294) (295)
- Concerns associated with the number of cities and counties that are moving forward with cannabis licensing under MCRSA in order to help determine how many licenses will be needed. (33)
- Suggestions regarding the numbers of each type of license that can or should be issued. (33)
- Concerns associated with determining the best equation for issuing cultivation licenses at any given time. (33)
- Questions surrounding the number of licenses permissible based on acreage of parcels and/or questions and concerns surrounding acreage limitations. (113) (154) (233) (265) (308)
- Cultivation permits need to allow for processing operations such as: drying, curing, trimming, sorting, packaging, warehousing. (130)
- Suggestions/questions regarding the approach to allowing separate licensees to operate on the same parcel. (34) (35) (370)
- Questions regarding how many licenses an individual and their family members and associates may hold. (233)
- Can licenses be switched between different cannabis cultivation classes? (233)
Consider allowing parcels of a sufficient size to receive additional cultivation permits under the same license. (34) (35)

Suggestions that the approach to defining mixed-light should consider the amount of energy use. (130)

Regulations should clarify whether a dispensary can sell immature plants and/or whether it can hold a nursery license for this purpose. (36) (96)

Regulations should clarify whether a Type 10 or 10A Dispensary can hold a Type 4 license and sell immature plants, or alternatively sell (but not produce) live plants under the Type 10 license. (196)

The regulations should allow licensed cultivators to transport harvested cannabis from a cultivation site to a processing site without the need for a Type 12 license. (36)

The regulations should allow cultivators to hold a dispensary license (10A license). (36)

The number of 10A licenses should be limited to protect small growers (194) (196)

Clarify any production size requirements or limitations on Type 4 licenses. (36)

Add an additional license type for a specialty cultivator that is up to 2,500 square feet. (161)

Support for development of cottage licenses, including home-based operations. (66) (228) (231) (326)

Provide provisional licenses for small farmers in order for them to have ample time to meet the new regulations. (232)

Will there be an opportunity to upgrade cultivation licenses upon renewal? (342)

Will growers with personal history as licensed/compliant prior to 2016 be given priority review? (384)

Can 10A license holders possess nursery, cultivation, manufacturing, and dispensary license combinations? And if not, what are the license limitations? (384)

Clarify if mixed-use applications are allowed for medical and commercial cultivation, and how it will be regulated. (397)

Clarify what “good standing” means and how an applicant can prove “good standing” (397).
Type 3 Limits

- CDFA's **limit mandate on Type 3 licenses** should be applied to cultivation operations that were proposed after the date state licenses become available. (9)

- Limit Type 3 permits to mostly outdoor grows and also limit them based on the effect they will have on any given **watershed**. (164)

Nurseries

- Regulations should specify how nursery requirements related to **pest detection, prevention, quarantine, and overall cleanliness** will apply to cannabis nurseries. (13) (43) (96)

- Cannabis nurseries should be subject to existing **nursery stock licensing requirements** and **label requirements**. (13)

- Concerns associated with the **consistency of cannabis nursery stock definitions** and terms. (43) (110)

- Require that any **cannabis nursery stock** that is produced, sold, or distributed come from a Type 4 licensed retail or wholesale nursery. (96)

- Consider a **simplified compliance process for retail nurseries** that are not related to dispensaries. (153)

- There should be **no limit on the size of a nursery**. (154) (251)

- Suggestion that there is **no purpose for limiting nurseries** to four licenses of 1 acre each, versus one license for 4 acres. (154)

- The ability to have **mature plants to produce seeds** is needed for the nursery production process. (225)

- Concerns that **licensing costs for small nurseries** could be cost-prohibitive. (295)

- Opposition to the requirement for a **distributor**. (331)

- Regulations should address **wholesale cannabis seed production** for resale and strain development. (96)

- Question regarding whether or not nurseries will be **able to transport to a retail customer or only a legal dispensary**. (376)

- Address how cannabis plants will be subject to all relevant nursery program requirements. (402)

Inspections and Records

- Utilize the **U.S. FDA's Food Safety Modernization Act** as a comprehensive model for drafting the regulations and inspection procedures established in the MCCP. (6)
- Require all permitted operators to keep and **maintain all records** related to business sales, material inventory, staff, MSDS sheets for materials that are used, and other state and local required records. (8) (53) (72) (93)

- Questions and concerns regarding the **number and timing of inspections**, both as it relates to individual licensees and the overall CDFA inspection process. (8) (72) (257) (309)

- Cannabis cultivation should be an **internal system/database for local governments** to be able to file complaints with the State and have those associated with a license keep track of issues that arise. (8)

- Concerns associated with access to the **unique identifier database** by local agencies. (8) (72)

- Provide **advanced notice before inspections**; do not conduct "surprise" inspections as some locations are not open to the public. (30) (248) (267)

- Address how cannabis seeds will be subject to existing requirements for **sampling** to detect disease and, if they meet the **specific requirements, certification of seeds for packaging, labeling, and sale.** (13) (344)

- Provide **grace periods** for technical violations or imperfect record keeping. (30)

- Records of **plant destruction** as well as **events in the cannabis life cycle** that fall outside of expected parameters should be compiled. (32) (124) (172)

- Cultivation operations must **maintain records** that include planting records, propagation records, pesticide use records, and harvest records. (53) (93)

- Develop **standard protocol for inspections** and provide the CAC with guidance regarding the submission of Pest Damage Records and collection of pest samples related to cannabis cultivation. (96)

- Concerns associated with the **costs to local and county departments** for resources used to ensure that grow sites are safe and in compliance with regulations through proper investigations and on-site visits of these areas. (102) (315)

- Concern regarding cannabis cultivation **site expansions** after the preliminary permit inspections are completed, and how this would be prevented. (109)

- Inspections should occur **prior to or shortly after license approval.** (100) (136)

- Law enforcement should not be **unnecessarily involved in inspections.** (164) (251)

- Law enforcement should have **warrantless access.** (279)

- Appoint a representative from each grow site who will be tasked with **escorting inspectors** onto cannabis sites. (164)

- Each site should have **records** of total plant count, weight of dry flowers, and proper records of all disposed cannabis flowers, plants, and dried flowers. (172)

- Concerns regarding **improper handling** (e.g., exposure to air) during product testing. (222)
Utilize QR code tracking in order to keep records of cannabis products. (267)

Require all inspector personnel to wear protective suits in order to prevent the potential spread of pests to habitat areas outside of cultivation sites. (244) (290)

Require third party certifying/inspection agencies. (64)

Track-and-Trace System

Utilize concepts of produce traceability implemented by the agriculture industry when developing track-and-trace requirements. (6)

Require all cannabis products to be tracked through various stages of cultivation such as production, manufacturing, processing, handling, transportation, sales, and consumption. (6) (8) (72) (73) (279)

Concern expressing the importance of tracking cannabis through all stages. (102)

Track the weight of cannabis plants before and after transport. (8) (72) (73) (124) (172)

Tracking the weight of non-psychoactive plant matter is not necessary. (262)

Track the record of cannabis clone purchases, vegging, flowering, and harvest dates. (15) (61) (73) (124) (279)

Each cannabis seed must be registered for germination with State-required tags. (124)

Tracking of seeds is not necessary. Plants should be tracked from 8 inches. (248)

Electronic forms of tracking need to be made available that are approved by the state. (248)

Require all cannabis businesses to provide periodic data to relevant state and local regulatory agencies that includes volume and tracking data from seed-to-sale systems as well as retail data from point of sale systems. (32)

Suggestions regarding the size of a plant before a unique identifier is required – 8-inch clones, 1-foot plants. (15) (61) (360)

Develop an online database where the public can search for detailed information regarding the license holder and his/her cannabis operation(s). (8) (72)

Track-and-trace technology is paramount to the successful implementation of a program that maintains system integrity and prevents infiltration of non-licensed products. (19) (245) (332)

Allow for existing tracking systems and technology utilized by current cannabis businesses to integrate with CDFA track-and-trace procedures. (32) (45) (68) (86) (237)

Tailor track-and-trace CDFA procedures to adhere to best practices with respect to encryption for data. (32)
Tailor track-and-trace CDFA procedures to provide **uniform third party access** to collected data to the extent permitted by the state and local governments. (32) (247)

Tailor track-and-trace CDFA procedures to **protect personal information of patients** to the extent mandated in MCRSA.

Tailor track-and-trace CDFA procedures to **minimize administrative burden** to cannabis businesses. (32)

Tailor track-and-trace CDFA procedures to **require an open standard** and ability to source goods from third parties. (32)

Tailor track-and-trace CDFA procedures to be **compatible with a variety of hardware and software systems.** (32) (45) (68) (86) (237)

The track-and-trace system should allow all licensee-facing system activities to be performed by a secure open-access **API** (Application Program Interface). (32)

The API should have **bidirectional integration, be real time, be accessible to any front-end application** that has been validated and has appropriate credentials, and have version control. (32)

Suggestions that there be flexibility to **tag entire plant batches and lots** instead of individual plants. (36) (130) (206) (259) (358)

Concerns that **tagging individual plants is ineffective** and how it does not provide any information as to how much product will be available. (239)

Develop a track-and-trace program that allows the **state, local jurisdictions, and/or law enforcement to access to data.** (36) (172)

Utilize **barcoding, QR and/or RFID tagging** in the track-and-trace program. (45) (124) (267)

Cannabis products must be **traceable back to their respective cultivation sources.** (53) (93) (269)

How will the track-and-trace program apply to **staged harvests** of the cannabis flower? (67)

The track-and-trace system should **end at the point the product is delivered** and enters a dispensary’s point-of-sale system. (68) (86)

Comment on how **small-scale, indoor cultivation** that utilizes fully monitored facilities is **beneficial to the track-and-trace system.** (83)

There should be specific **labeling requirements** contained in the track-and-trace system. (90)

How will cannabis products that are **transported by air** be tracked? (102)

Promotion of **Greeniosk Track, Trace/Seed to Bank Technology.** (107)

Provide **GPS tracking and tracing of all pickup/delivery vehicle movements.** (124)

**How do I participate in the track-and-trace program?** (127)
The track-and-trace system being developed into the CalCannabis Cultivation Licensing program needs to be carefully examined and thought out before implementation. (331)

Concerns associated with the difficulty in being able to track cannabis due to its perishability. (331)

Humboldt’s County’s predictive model of tracking cannabis is a better method than tagging individual plants. (196)

Research Colorado’s track-and-trace program instead of trying to develop an entirely new program. (241)

Request to provide consultation on the development of the track-and-trace program. (245) (332)

Only the finished cannabis product should be tracked through the track-and-trace program. (254)

The track-and-trace program should monitor labor costs, workflow methodology, and plant life cycle. (262)

The track-and-trace program should only monitor how many plants were planted, what their yield produced of medical quality, and where they went. Anything more than this is unnecessary and counterproductive. (268)

Concerns associated with the potential cost of maintaining the track-and-trace program on local government agencies. (315)

Use FlowHub or GreenBit as the primary track-and-trace software. (324)

Concern that the track-and-trace program is not practicable. (347)

Concerns associated with the proper tracking of cannabis products that are transported throughout the state. (102) (124)

Concerns associated with the required items on a transporter’s manifest for transportation of cannabis goods. (328)

Concerns associated with the required documents that must accompany transport drivers, establishing the necessary thresholds for transporter licenses, and driver check-ins and reporting. (124) (328)

Require special DMV endorsement for transport drivers. (124)

Concerns associated with applying for a separate transporter's license or if transport is allowed under a cultivation permit alone. (130)

Transporters should be allowed to transport cannabis between any two license holders. Specifically, they should be able to move cannabis from the cultivator to licensed testing labs, processing facilities, manufacturers, and distributors. (167)

Concern that the track-and-trace system will not ensure that cannabis produced and sold under the new state regulations is grown legally. (401)
Other

- Provide access to a **regulated marketplace** for growers as an incentive to get them to comply with regulations on their cultivation operations. (31)
- Incentivize the adoption of **organic/probiotic farming** by cannabis growers. (262)
- Concerns associated with **felons receiving licenses** and permitting to conduct cannabis cultivation operations. (59)
- Concerns associated with the **proper treatment of workers** on cultivation sites. (59) (99)
- Concerns associated with **out-of-state growers** who conduct cannabis cultivation operations during grow season and then return to their home states afterwards. (59)
- **Restrict granting and renewal of licenses** to individuals or sites that have prior violations or convictions. (75) (100) (136) (282)
- Concerns associated with **funding for regulations**. CDFA must take into account any costs accrued from requirements at the local level. (96)
- Require **obtaining a cultivation license** prior to constructing cannabis cultivation facilities. (253)
- Concerns associated with the influence, control, and operations of **illegal criminal organizations** (gangs, cartels, drug traffickers, etc.) over cannabis cultivation in California. (99) (354) (372)
- Concerns associated with mitigating any **violence** that results from cannabis cultivation. (345) (354)
- Concerns associated with public health and safety as a result of cannabis cultivation. (335) (372) (394)
- Prevent **foreign countries, citizens, or businesses** from owning or controlling any cannabis land or water usage associated with cannabis cultivation in the state of California. (124)
- Prevent the **importing or exporting of cannabis** produced in California to a foreign country. (124)
- Concerns associated with the specifics of **how ownership rules apply to cooperatives**. (130) (233)
- Concerns associated with the **date on which cannabis purchases and distribution must begin to pass through licensed distributors and cultivators**. (130)
- Will the state allow for **on-site consumption/sales** (i.e. farm tours, bed & breakfast, events, specialty markets)? And will this also require prior pass through distribution? (130)
- Can a product produced on a farm be maintained in a secure location on site once a sample has been taken for testing by the distributor? Or does an entire batch have
to be transferred to distribution and held off site until transferred to a purchaser (i.e., dispensary)? (130)

- Does Desert Hot Springs follow its own laws set by the city council prior to the 2018 cannabis regulations or will the new regulations overrule them? Specifically, for limitations on canopy size. (159)

- Recommendation to eliminate Proposition D (City of Los Angeles measure), which sets a cap on the number of medical cannabis dispensaries. (139) (152)

- Concerns associated with the illegal distribution and sale of cannabis through the black market. (150)

- Any rules established that seek to protect the environment should be applied to all agricultural operations and not just to cannabis. (185)

- Allow for cannabis farmers to join agricultural marketing cooperatives in order to ensure small farm survival. (185)

- Concerns associated with the financial impacts on the pricing of cannabis from over-regulation. (200)

- Concerns associated with the protection and grandfathering of pre-CalCannabis growers who have been providing medical cannabis to California well before this program was proposed. (209) (265)

- Concerns associated with how long-time growers are going to prove to the government that they were operating either 100 percent or 90 percent legally prior to the CalCannabis Cultivation Licensing. (244)

- Concerns associated with providing insurance and surety bonds for cannabis growers and their cultivation sites. (252)

- Concerns associated with the testing/laboratory model that existing growers use as a way to control the cannabis market. (279)

- Small farmers should get priority for receiving cultivation licenses over large companies to allow for a competitive economic marketplace. (323)

- Certified organic farms should be given a fast track into the program because they have already proven that they can follow rules and regulations. (281)

- The application process should be a quicker process in general. (323)

- Individuals who have felony conviction(s) dating back more than 10 years should be allowed to obtain a cannabis license as well as be able to work at cultivation sites, dispensaries and other cannabis-related positions. (308)

- Prohibit cannabis cultivation until the state has cleaned up the 215-card program that has been abused by doctors who are writing prescriptions for patients who do not have medical conditions. (318)

- Concerns associated with the equal opportunity to participate in the cultivation licensing process for African Americans and other minorities. (337)

- Concerns associated with racial imbalance in the cultivation industry. Recommends that the PEIR include a section that aims to address this issue. (356)
Concerns associated with the types of entities that will be receiving cultivation licenses. (227)

Question regarding the pre-packaging cannabis flowers and whether or not the process should abide by NIST HB133 packaging laws, as well as the weights and measures MAX allowed variance (MAV) for packaging accuracy. (371)

Question regarding availability of list of special cultivation permits as public record. (385)

Invitation to CDFA to participate in cannabis working group meeting. (390)

Address how cannabis seed will be subject to all relevant seed requirements. (402)

Comment Categories Relevant to the Environmental Review

The following comments received pertain to EIR comment categories relevant to the proposed program and preparation of the draft PEIR.

General Cultivation Practices

- Information and calculations to assist in determining the number of qualified patients in California in order to better determine the current demand for cannabis. (33) (35)
- Determine the methods of consumption employed by patients in order to determine how much cannabis needs to be cultivated for each one. These methods include inhalation, consumption in edible form, topical and concentrated forms, and consumption in solution. (33) (35)
- Determine the average amount of cannabis that is consumed per patient annually in order to further assist CDFA in developing the MCCP. (33) (35)
- Determine the amount of cannabis required to manufacture each consumption method. (33) (35)
- Determine the amount of cannabis flowers that plants produce. (33) (35)
- Determine the approximate area of plant canopy required to produce California’s annual supplies of cannabis. (33) (35) (78)
- Information and calculations regarding the number of each license type needed to fulfill demand. (33) (35)
- Develop a cultivation checklist tool that can be used by CDFA, other agencies, and local governments to evaluate environmental impacts of cannabis cultivation license programs. (31)
- Implement the certified organic designation and organic certification program for medical cannabis cultivation (California Business and Professions Code Section 19332.5) sooner than 2020. (46) (47) (100) (136) (282) (405)
Require all materials used in the cultivation of cannabis to be approved for use in organic production. (48) (101) (405)

Establish a program for organic certifying agents to certify cannabis as meeting USDA organic standards. (48) (147) (405)

Consider impacts proposed regulations may have on certified organic producers. (405)

Suggestions regarding the definition of mixed light. (130) (208) (246)

Allow cultivators the opportunity to sort their cannabis material into different raw materials for packaging, such as shake, dry sieve, water concentrating. (66)

Most people in the cannabis industry prefer outdoor cultivation over indoor cultivation grows. (218)

Comment providing information on micropropagation and tissue culture properties for use in cannabis cultivation. (226)

Comments providing farming techniques (such as water use, staged harvest) that can prove to be beneficial to cannabis cultivation or the environment. (164) (246) (285)

Joints, dry seeding, water concentrating, and rosin should be considered non-solvent extracts and, therefore, should not be considered within the scope of cultivation. (246)

Request to be included in any CDFA groups or convening panels that may be established to help provide more insight on cannabis cultivation operations. (28)

Concerns associated with an availability of any programs or partnerships that would allow licensees to receive grants, loans, matching funds, or tax credits to install renewable energy systems for cultivation operations. (34)

Recommendations on how to manage propagation materials used for cannabis cultivation operations. (53) (103) (269)

Suggestions regarding the number of plants allowed per person or caregiver for personal or medical use. (82)

Concerns regarding the public health and safety and environmental impacts of illegal growing and sale of cannabis. (98) (101)

Concerns associated with the potential loss of cannabis variety due to overly restrictive regulations. (103)

Concerns associated with the lack of adequate square footage for cannabis grows to provide enough space between plants so that growers can work comfortably. (203)

Implement standards for commercial cultivation facilities through carbonized or chemical mechanisms. (205)

Comment describing the duration of light exposure needed for each step of the cannabis cultivation process. (246)
Comment describing the recordkeeping of each cannabis strain as well as their total yield. (246)

Information regarding the types of cannabis extraction methods currently in use. (268)

Treat small plants with pesticides rather than treating them during flowering. Treating them when they are small will prevent traces of pesticide in the final product but will still be effective in saving the plant. (289)

Consider the transition from cannabis cultivation to industrial hemp cultivation for current cannabis farmers. (301)

Growers are using 20-foot-high hoop houses, which do not require permits, to maximize their cultivation. (314)

Concerns associated with the correct projection of how much cannabis will need to be produced as well as how many licenses should be issued in the next couple of years. (33)

Aesthetics

Concerns associated with potential impacts to scenic resources and public views related to land clearing, including hilltop grading, removal of trees and vegetation. (10) (29) (75) (104)

Concerns associated with potential impacts to scenic resources and public views from cannabis cultivation operations equipment, including views of large water tanks, greenhouses, and the construction of walls and security fencing for indoor, outdoor, and mixed-light cultivation sites (10) (20) (374)

Concerns associated with cannabis cultivation development and infrastructure on coastal viewsheds, sensitivity to existing coastal terrain, natural features, and historic structures and landscapes; and considerations being made to the design of new structures in the coastal zone to be compatible with the character and zoning of the surrounding area. (20)

Concerns associated with impacts to day and nighttime views from additional development and infrastructure associated with cultivation sites, such as the use of exterior and artificial lighting. (20) (29) (85) (106) (123) (140) (259) (307) (394)

Recommendation to prohibit any light pollution that impacts nighttime views entirely. (75) (82) (102)

Recommendation to use visual barriers and lights for security purposes. (34) (35)

Concerns associated with the influx of cannabis growers’ temporary living accommodations into local communities that affect the scenic value of the neighborhood. (366) (367)

Cover grows with blackout cloth when lights are on in order to prevent light pollution. (75)
Agriculture and Forestry

- Concerns that **excessive land clearing** as a result of outdoor cannabis cultivation has potential to result in loss of oak woodlands, timberlands, open space, and other forest environments. (10) (100) (210) (282) (396)

- Concerns that outdoor cultivation can result in the **conversion of farmland and agricultural land** from grazing and other crops to cannabis or non-agricultural uses. (10) (20) (29) (104) (395)

- Analyze how large scale cannabis operations and other non-soil dependent accessory structures may result in the **conversion of prime and/or nonprime agricultural lands** to non-agricultural uses. (20)

- Concerns associated with the **compatibility** between cannabis cultivation operations and the existing agricultural production areas on surrounding lands, and impacts on the adjacent operations. (20) (29) (102)

- Evaluate other **potential alternatives** that would accomplish the purposes of the cannabis cultivation program while avoiding potential agricultural conversion to non-agricultural uses. (20)

- Examine any potential conflicts with existing zoning for agricultural use or **Williamson Act contract**. (29)

- Suggestions that cannabis cultivation in **Timber Production Zones** should not be allowed, and/or that its impacts be evaluated in the PEIR. (26) (46) (47) (100) (101) (120) (136) (147) (282)

- Concern regarding the potential land use impacts on **neighboring timberlands** caused by cannabis cultivation site establishment. (104)

- Grow sites should be **limited to agriculturally zoned lands** that have already been disturbed. (102)

- Consider mitigations including without limitation requiring that all cultivation sites located on timberlands demonstrate compliance with the **Forest Practice Act**. (104)

- Address the potential for **forest fragmentation** caused by cultivation sites and include measures to minimize and mitigate it. (26) (106) (120) (312)

- Consider **climate change adaptation measures** for improving forest adaptation to land clearing and deforestation for cultivation operations, such as replanting. (46) (47)

- Safety concerns surrounding **illegal cultivation site activities within forests**. (366)

- Concerns associated with the **protection of federally granted certified organic farmers** from any impacts brought about by cannabis cultivation. (215)

- Question regarding cannabis being considered an **agricultural crop** and how associated "right to farm" ordinances apply differently to agricultural crops versus products. (374)
The recognition of cannabis as an agricultural product will have significant impacts to the duties and responsibilities of County Agricultural Commissioners and must be clearly addressed. (402)

Air Quality and Odor

- Concerns associated with odors released from cultivation sites and the need to identify mitigation measures to reduce odor impacts. (3) (10) (71) (75) (83) (91) (98) (118) (119) (138) (247) (255) (311) (314) (346) (364) (365) (372) (398) (403)
- Concerns associated with the potential health ramifications that noxious odors and fumes from cannabis cultivation sites may cause. (3) (29) (85) (91) (98) (119) (298) (313) (314) (319) (346)
- Incorporate air quality permit and air quality regulatory compliance requirements for the licensee from the state or regional air quality management district. (3) (20) (47) (100)
- Cultivation sites should comply with the Clean Air Act. (120) (136) (282)
- The analysis should include examination of the potential air quality impacts caused by excessive energy consumption including the use of generators and diesel-fueled equipment. (3) (20) (29) (46) (47) (80) (102) (120) (255) (403)
- The analysis should include examination into the potential air quality impacts caused by transportation operations related to cannabis cultivation. (20) (29) (46) (47) (102) (120)
- The need for the proper evaluation of air quality in the PEIR. (47) (67) (71) (91) (100) (120) (136) (247) (282) (319) (346) (394)
- Concerns that manufacturing processes on both indoor and outdoor cultivation sites can lead to fires, burning, or other accidents that negatively affect air quality. (3) (46) (104) (255)
- Comments on the benefit of existing timber stands and how they help to improve air quality. (100) (120) (282)
- Recommendations on acceptable ventilation systems for use on cultivation sites. (28) (53) (93) (269) (319) (340)
- Infrastructure on cultivation sites need to be designed to monitor and control any airborne contaminants released into the air due to production. (80)
- PEIR should consider the need for dust control on lands that have been cleared for cannabis cultivation. (255)
- MCCP regulations should reflect the cap and trade regulations administered by the California Air Resources Board (CARB). (46)
- PEIR should address the requirement of processing activities to comply with air district regulations. (403)
■ PEIR should address how to minimize or eliminate impacts associated with burning crop residue. (403)

Biological Resources

■ Concerns regarding the potential for “take” of California Endangered Species Act (CESA) or Native Plant Protection Act (NPPA)-listed species due to any project-related activity. (4) (29) (82) (106) (312)

■ Concerns regarding the potential diversion or obstruction of natural flows involving any river, stream, or lake, or any change or use of bed material, channel, or bank; or any disposal of debris, waste, or other material into these areas that would substantially affect any existing fish or wildlife resource. (4) (20) (100) (101) (120) (282) (311) (312) (391) (395)

■ Ensure compliance with federal Clean Water, Clean Air and Endangered Species Act (ESA) provisions from states, counties, and license holders for the use of hazardous materials and/or chemicals in order to preserve water quality and wildlife. (46) (47) (100) (136)

■ Require that local ordinances regarding pesticide use that are more restrictive than state or federal requirements take precedence over federal Clean Water, Clean Air and Endangered Species Act provisions. (46) (47) (100) (102)

■ Concerns associated with the impacts of pesticide and chemical usage and how it can harm wildlife and the environment. (149) (282) (309) (367) (400)

■ Concerns associated with the disclosure of adequate mitigation and monitoring measures in the PEIR involved with the “take” of CESA or NPPA-listed species and the diversion, alteration, or use of any river, lake, or stream. (4)

■ Disclose any information where site-specific impacts on biological resources are unknown and acknowledge that further environmental analysis is needed for these areas. (4) (395)

■ Concerns regarding potentially negative impacts on animal species populations and habitats caused by cannabis cultivation operations. (10) (26) (29) (75) (101) (102) (140) (312) (395)

■ Concerns regarding the development of areas adjacent to Environmentally Sensitive Habitat Areas (ESHAs) that may or may not significantly impact these ESHAs. (20)

■ Restrict grow sites from being planted in areas that are important habitats for threatened or listed species and in ESHAs or areas listed as critical habitats for species. (102)

■ Prohibit cannabis cultivation operations on Timber Production Zones and in timberland/woodland. (147) (282)

■ Provide analysis on alternatives to any proposed cannabis cultivation project to prove that the least damaging feasible alternative was chosen. (20)
Concerns regarding the potential impacts of situating cannabis cultivation near rivers, creeks, wetlands, or other sensitive habitats. (26) (75) (400)

Concerns regarding the impact of hazardous chemicals on native species located in cultivation sites. (29)

Thorough habitat assessment reports should be prepared by qualified biologists for locations where cultivation sites are located. (29)

Retain a qualified biologist to perform site assessments. (29)

Concerns associated with the harmful effects of light pollution on wildlife migration patterns. (123)

Implement more stringent regulations and enforcement to address the serious impacts that are causing significant stress on wildlife in sensitive natural areas and watersheds. (46) (47) (100) (136) (282)

Concerns associated with the evaluation of any cumulative impacts on all species listed as sensitive, threatened and/or endangered. (46) (47) (82) (100) (101) (102) (120) (136) (282)

Concerns associated with the impact of noxious weed species within cultivation sites and mitigation measures to prevent them from infesting areas beyond these sites. (46) (47) (100) (101) (136) (120)

Address the preservation of natural ecological processes to maintain the current balance of species populations and diversity. (46) (47) (100)

Concerns associated with the use of foreign soils that are known to spread pathogens that harm or kill local plant and wildlife species. (101) (102)

Concerns associated with the increased risk of fires caused by cultivation operations that could lead to the destruction of biological resources. (104)

Concerns associated with the potential for soil degradation due to lack of knowledge in biological (regenerative) agricultural vs. chemical agricultural practices. (120) (301)

Concerns associated with the proper consideration for wildlife habitats, corridors, and ecological hotspots. (120) (301)

Concerns associated with the depletion of natural aquifers due to cannabis cultivation. (121) (367)

Coordinate between local, state, and federal agencies when reviewing permit applications and violations in order to mitigate damages to sensitive natural areas more effectively. (100) (147)

Limit the number of cultivation sites and total acreage of these areas in consideration of the overall environmental impact they will cause. (282) (313)

Require all inspector personnel to wear protective suits in order to prevent the potential spread of pests to habitat areas outside of cultivation sites. (244) (290)

Agricultural practices related to cannabis cultivation must provide a way to regenerate biological soil diversity and enhance wildlife. (301)
Protection of **state water resources** must be a paramount issue addressed in the MCCP. (309)

Specifically evaluate each outdoor and indoor cultivation license issued for potential impacts on the **Pacific fisher**. (312)

Concerns associated the impacts on **Marbled Murrelets** due to attraction of predatory corvids by littering of food waste. (312)

Prohibit medical cannabis from being **genetically modified using recombinant DNA technology**. (312)

Consider the dumping of wastewater and chemicals into watersheds in **Calaveras County** that came about due to unregulated cannabis cultivation when drafting regulations for the MCCP. (366)

Analyze **fish screening and passage** at water diversions. (21)

Use a **written checklist or similar device** to document the evaluation of environmental effects of cannabis operations covered in the program environmental analysis. (395)

Concern regarding the **indirect impacts of rodenticides** introduced into the food chain resulting in the killing or weakening of rare predators. (400)

**Environmental restoration funds** derived from the sale of legal cannabis should be applicable to all public lands, including Bureau of Land Management managed lands. (401)

### Cultural Resources and Tribal Cultural Resources

Concerns associated with the negative impacts on cultural and historic resources from **land grading and land clearing activities**. (10)

Conduct surveys to determine the degree of impact cultivation sites would have on historical/archeological resources including any **human remains or tribal burial ground sites**. (29) (54) (378) (406)

Concerns regarding the potential disregard for **tribal community concerns** who are located near cultivation sites. (120)

Ensure **proper mitigation of any impacts from cultivation sites on cultural resources** within tribal lands. (52)

Concern regarding the **lack of ability for tribes to obtain licenses** to cultivate on tribal lands. (214) (216) (217)

Request for **consultation in order to protect cultural resources**, including a request for consultation if the **project includes ground-disturbing activities**. (377) (378) (380) (381) (383) (388) (406)

Concerns regarding the **dewatering of tributary streams** that are depended upon for fishery resources. (378) (395)
Concerns regarding widespread use of herbicides and associated impacts on water quality and cultural beneficial uses. (378)

Request to include discussion of the regulations and their application to sovereign tribal lands in the environmental analysis, and clarification on a Tribe’s ability to regulate and cultivate cannabis without state interference. (386)

Geology and Seismicity

- Perform a geotechnical services report on cultivation sites. (29)
- Concerns associated with erosion and sediment impacts such as sediment pollution, mass sedimentation, and erosion from rain events. (20)
- Concerns associated with the disposal of potentially foreign soils that may be imported to an area for cannabis cultivation. (82) (102)
- Concerns associated with the potential for soil degradation due to lack of knowledge in biological (regenerative) agricultural vs. chemical agricultural practices. (120) (301)
- PEIR should evaluate an analysis of soil and water contamination due to leaks and improperly stored soil additives like fertilizers and pesticides, and fuels and supplies for generators used to power grow lights and fans is necessary as well. (20)
- Implement more stringent regulations and enforcement to address the serious impacts of cannabis cultivation operations and materials on land terracing. (46) (47) (100) (136) (282)
- Concerns associated with proper usage, storage, and disposal of nutrients used in cultivation. (53) (103) (269)

Energy Use and Greenhouse Gas Emissions

- General concerns with greenhouse gas emissions and high energy consumption associated with indoor cultivation sites. (10) (17) (46) (47) (106) (120) (170) (375)
- Recommendations to encourage outdoor, sun-grown cultivation that uses much less energy than indoor cultivation. (17) (67) (69) (375)
- Concerns regarding the extent of carbon dioxide emissions due to long distance traveling to cultivation sites. Recommends that sites be located in close proximity to towns. (75) (104)
- The PEIR should include proper analysis and evaluation of the direct and indirect impacts of greenhouse gas emissions on the environment. (29) (46) (67) (71) (101) (120) (394)
- Recommendations that the state use the Council of Environmental Quality's work on greenhouse gas emissions and climate change impacts as a guideline for the PEIR. (46) (47) (120)
- **Plans, policies, or regulations** need to be put into place to mitigate greenhouse gas emissions. (29) (46) (47) (80)
- Lights should not be restricted (**light restrictions**). (34) (246)
- Work with other state agencies to **develop a statewide certification program** for sustainably grown indoor cannabis cultivation in order to mitigate greenhouse gas emissions. (46) (47) (100) (120) (282)
- Comments on the benefit of **existing timber stands** and how they help to offset greenhouse gases through carbon sequestration. (46) (47) (100) (120) (147) (282) (312) (396)
- Concerns associated with the number of **indoor cultivation permits issued**, and the associated cumulative impact of greenhouse gas emissions. (46) (47) (100) (101) (120) (282)
- Concerns associated with licensee compliance with the federal and state **Clean Air Acts**. (47)
- The PEIR should consider **potential emissions-reducing scenarios or alternatives** that could be used to offset energy usage and greenhouse gas emissions caused by cannabis cultivation. (67)
- How will the enforcement process penalize against unmitigated **greenhouse gas emissions violations**? (46) (47)
- Comment recommending the maximization of electricity **usage during off-peak hours** only for cannabis cultivation with minimal overlap into peak hour usage. (68) (80) (86)
- Implement a **carbon tax** on indoor grows to reduce fossil fuel and electrical energy usage that is needed to run indoor cannabis cultivation. (64) (69)
- Require all cannabis operations to calculate their baseline **carbon footprint and develop a comprehensive plan to minimize** it over time. (80) (301) (375)
- Require indoor and greenhouse cultivation sites to conduct an **energy audit** that identifies energy sources and energy consumption per amount of crop produced and/or per surface area of crop production. (80)
- Require cannabis operations to make an effort to move towards **renewable energy consumption** such as using wind and solar energy, hydropower, biomass, etc. (80)
- Promoting **energy-efficient practices and appliances** will help to reduce greenhouse gas emissions. These practices and appliances include but are not limited to energy-efficient lighting, heating and cooling systems, smart equipment, and reduction in use of petroleum generators. (80) (301)
- Provide local community members who are affected by any greenhouse gas emissions from cultivation sites with an **MSDS on each type of gas that is released**. (91) (346)
- Initiate a **credit system that rewards cultivation operations** when and/or if they operate with low greenhouse gas emissions rather than penalizing them for high emissions. (244)
Concerns associated with the unchecked usage and disposal of greenhouse gas emitting appliances including generators, butane canisters, and propane. (307)

Include a systematic and comprehensive discussion of the impacts of climate change caused by areas where cannabis cultivation is prevalent. (46)

Projects should be required to maintain a 40% sustainable energy threshold. (391)

Include consideration of hydroponic systems for greenhouse or indoor growing to ensure the smallest footprint possible. (393)

Concern regarding energy and electricity consumption of cannabis cultivation. (394) (398)

Hazards, Hazardous Materials, and Human Health

Concerns with the potential for the spread of pests and diseases to agricultural crops due to a lack of pest and disease screening on cannabis seeds and clones. (344) (402)

Impacts to crops and livestock as a result of the use of toxic chemicals. (13) (29) (46) (120)


Evaluate how cannabis cultivation operations will address protection against spillage of hazardous substances, which will include proper containment and cleanup procedures and adequate safety training and protocol. (20) (28) (53) (82) (93) (269)

Concerns associated with the adequate evaluation and regulation of potential hazards on and near cultivation sites. (18) (20) (48) (147) (149) (203) (247)

Concerns associated with the potential health ramifications that noxious odors and fumes from cannabis cultivation sites may cause. (3) (29) (85) (91) (98) (119) (298) (313) (314) (319) (346)

Concerns associated with the proper recall of cannabis that has been shown to present a reasonable or a remote probability that the use of or exposure to the product will cause serious adverse health consequences, or could cause temporary or medically reversible adverse health consequences. (28) (53) (93) (222) (269)

Concerns associated with interference with emergency vehicles or evacuations due to sectioned off roads near cultivation sites. (29) (75) (101)
Ensure proper sanitation practices on cultivation sites including adequate and readily accessible toilet facilities and hand-washing stations. (28) (53) (93) (102) (106) (324)

Ensure proper safety measures for any structure and for workers near or on a cultivation site. (28) (53) (93) (96) (269)

Inform permit applicants of the chemicals that may and may not be used in cultivation sites. (61) (74) (82) (100) (121) (136) (149) (297) (312) (324) (297)

Concerns associated with increased crime and loss of safety in some neighborhoods where cultivation sites have been established. (99) (118) (140) (151) (298) (313) (355) (364) (365) (366) (372)

Concerns associated with the increased risk of wildfires on or near cultivation sites that are caused by a lack of defensible space around structures; use of generators, pumps, and other gas-operated equipment that are subject to fire prevention requirements; and over drafting of water during fire season. (104)

Concerns associated with the potential impacts of light pollution on human health such as cancer and heart conditions. (123)

Concerns associated with the inability to use pesticides for the successful growth of cannabis plants and the over regulation of pesticides. (289) (133)

Concerns associated with the evaluation and mitigation of public safety risks that may come from cultivation sites and their operations. (104)

Concerns associated with proper maintenance of equipment used for cannabis cultivation. (53) (103) (269)

Carbon dioxide levels in indoor cultivation facilities should not exceed 2,000 parts per million without personal protective equipment to ensure worker safety. (28) (53) (93) (269)

Concerns associated with the harm pesticides and fertilizers have on residents and communities. (372)

Questions regarding the environmental impacts of cannabis stalk material, which can be incorporated into closed loop systems through biochar soil amendments, gasification for energy, and other applications. (373)

Concerns over the general impact of hazardous materials and the disposal of toxic substances. (392)

Address how medical cannabis plants will be subject to all relevant quarantine requirements. (402)

Address how pests of cannabis plants will be a new concern, requiring the entrance, trapping, and monitor on growing grounds for presence of specific pests. Develop policies and procedures for submission of cannabis pests to CDFA for identification, and how the Department of Pesticide Regulation will provide advice on appropriate pesticides for cannabis pests. (402)
Hydrology and Water Quality

- Include the Porter-Cologne Water Quality Control Act’s applicable provisions in the legislation for the MCCP project. (101)
- Concerns regarding the potential impacts of siting cannabis cultivation near rivers, creeks, wetlands, or other sensitive habitats. (26) (75) (395)
- Require a full analysis of available water supplies and the potential drawdown of neighboring wells by cultivation sites. (82) (102) (106) (300) (307) (366)
- Require each cannabis operation to have its own written sustainability plan that details water reduction and other related categories. (80) (93) (298)
- Include an impact assessment on water quality in the PEIR. (20) (46) (47) (100) (102) (120) (136) (282)
- Concerns regarding the impacts of wastewater disposal associated with cannabis cultivation. (20) (82) (102) (366) (394)
- Concerns associated with the pollution of waterways due to increased waste and load on septic systems. (20) (120) (301) (366) (394)
- Concerns associated with the reduction of water quality due to cultivation operations such as unregulated logging, land grading, chemical usage and fertilizer/pesticide usage. (20) (85) (98) (106) (120) (300) (311) (312)
- Ensure proper education of the public regarding use of pesticides so that they can limit the use of harmful substances that end up in the water supply. (297)
- Ensure compliance with federal Clean Water Act provisions from states, counties, and license holders. (46) (47) (100) (136) (282)
- Concerns regarding the impacts of diversion or obstruction of natural flows involving any river, stream, or lake; or any change or use of bed material, channel, or bank; or any disposal of debris, waste, or other material into these areas. (4) (10) (20) (46) (47) (75) (100) (101) (106) (120) (136) (282) (309) (311) (312) (366)
- Implement more stringent regulations and enforcement to address the serious impacts of cannabis cultivation operations and materials on water quality and stress on watersheds. (46) (47) (100) (136) (282)
- Coordinate between local, state, and federal agencies when reviewing permit applications and violations in order take action before significant rainfall or runoff events damage water quality. (47) (100) (136) (147) (282)
- Enforce “Waters of the State” laws where each licensee must possess a legal water source adequate for the scale of cannabis cultivation. (46) (47) (59)
- Include provisions for licensee compliance with the federal and state Clean Water Acts and related regulations. (47) (80)
- Create setback requirement from streambanks and maximum slope limitations on grow sites in order to help minimize runoff. (47)
Concerns associated with the potential impacts of importing water to grow sites. (59) (101) (102) (366)

Concerns associated with water trucks using water from various unmetered town hydrants for use on cultivation sites. (57) (108) (307)

Concerns associated with the compliance of roads and driveways leading to cultivation sites with local and state requirements in order to prevent excess erosion and runoff. (75) (104)

Adopt the North Coast Regional Water Quality Control Board’s “Best Management Practices for Discharge of Waste Resulting from Cannabis Cultivation and Associated Activities or Operations with Similar Environmental Effects” when deciding on regulations. (101)

Concern associated with trucked-in planting medium that can lead to water pollution. (101)

Concerns associated with the amount of water that will be used by cannabis operations, depletion of aquifers, and overdraft of groundwater in general. (91) (85) (98) (104) (118) (121) (367) (392) (393) (394) (398)

Request for PEIR to support the development of a statewide general order (permit) by the Water Boards to regulate waste discharges from cannabis cultivation sites and associated activities. (21)

Request by Water Board staff to work with CDFA to develop the cultivation checklist tool to ensure it addresses potential environmental impacts associated with water quality and related beneficial uses. (21)

Include additional activities outlined by the Water Board for analysis in addition to what is already mentioned in the California Water Code, Section 13276. (21)

Add in additional water quality language relating to cultivation requirements into the regulations of the PEIR. (21)

Analyze diversion rates and periods associated with the diversion of water. (21)

Analyze off-stream water storage, in tanks, bladders, and ponds. (21)

Analyze erosion caused by water diversion, water storage facilities, and/or storage failure. (21)

Incorporate a method for linking identifiers and standards of reporting across the various agencies that will be responsible for ensuring compliance with MCRSA in relation to water quality. (21)

Include information on water storage capacity, diversion, and storage infrastructure, and any irrigation methods related to water source and storage. (21)

Update the language of bullet 8 of the “Outline of Draft Regulations” section in the PEIR which states, “If applicable, approval of water diversion and water rights.” Many of the water rights may not be “approved” at the time of application for a cultivation license, but could still be in process. (21)
Additional information is required for cultivators who obtain their water from certain water sources, including but not limited to surface waters, groundwater wells, and bulk water suppliers (i.e. groundwater well coordinates). (21)

Include specific provisions related to bulk water haulers to ensure that the water sold by them is from a legitimate source. (21)

Concerns associated with the protection of streams and/or watersheds. (164) (345)

Conduct a water use risk assessment every 5 years or when any material change is made to the water use plan. (80)

Require that all irrigation and production water come from sustainable, legal sources. (80)

Include records of well-drilling, well depth, and other well-related information. (80)

Provide irrigation records that show how much water was used. (80)

Evaluate the irrigation system efficiency of cannabis operations on a regular basis. (80)

Require that each cultivation operation complete a detailed system-wide review and leak detection assessment every 2 years. (80)

Require cannabis cultivation operations to have written procedures to manage water requirements during periods of drought or forced water restriction. (80)

Ensure that cultivation operations have water catchment systems in place with adequate recharge capabilities. (80)

Ensure that cultivation operations have created earthworks that maximize water retention and minimize runoff. (80)

Dispose of chemicals used for cultivation in accordance with applicable laws and regulations. (28) (93) (269)

The application of nutrients or pesticides through an irrigation system (chemigation) must be performed in accordance with state and local agricultural requirements. (28) (93) (269)

Concerns regarding the potential for depletion of water sources as a result of irrigation methods used for cannabis cultivation. (26)

Concerns associated with the impacts on water quality from increased potential for wildfires caused by cannabis cultivation operations. (104) (396)

Concerns associated with the potential for cannabis operations to result in impacts to coastal waters and wetlands. (20)

Establish cultivation operations that are small in scale and distributed in order prevent diversion of water resources. (83)
Support from the Nature Conservancy to list environmental requirements for all license types with an emphasis on demonstrating compliance with the State Water Resources Control Board’s guidelines for the diversion and use of water for cannabis cultivation. (26)

Utilize irrigation drip lines and capillary mats to help minimize water usage. (68) (86)

Concerns associated with increased soil sedimentation into waterways. (312)

Issue cultivation permits based on a property’s water availability and/or ability to produce cannabis. (309)

Advertising a reverse osmosis system for cannabis cultivation to help minimize water usage and waste. (18)

Comment suggesting the use of zero waste indoor cultivation facilities that refilter and reuse their water as a means to save water resources. (205)

Concerns associated with the potential for unfair over-regulation of water usage for cannabis growers compared to that of agricultural growers. (208) (135)

Allow cultivators to use groundwater rather than water pumped in from cities in order to reduce cultivation costs and allow growers to control the overall quality of water for their cannabis cultivation sites. (220)

How will the PEIR affect licensors in Oakland and across the state? Who is going to tell me what can be in my water runoff? (224)

List the range of irrigation systems available for cannabis cultivation and quantify how much water each system will consume over a period of time for comparison. (249)

Concern that water use for cannabis is grossly overstated (382)

Water pollution concerns as a result of fertilizer use. (387) (393)

Projects should include mandatory grey water and discharge water systems on site, or a larger water clarification system. (391)

Land Use and Planning

Concerns associated with housing shortages and increased land development due to cannabis cultivation operation. (10) (29) (120) (301)

Concerns associated with a disregard for proper planning and construction practices related to land development. (120) (301)

Concerns associated with increased coastal development. (20) (120) (301)

The number of licenses and total acreage allocated for cultivation for a designated area should be determined based on the combined past, present, and future impacts of cannabis cultivation. (46) (47) (91) (100) (120) (136) (282)
- Establish **setbacks for cultivation sites from neighborhoods, residential zones, schools, school bus stops, rivers, seasonal creeks, or watersheds**. (10) (47) (82) (85) (102) (119) (138) (311) (313) (314) (316) (318) (346) (364) (365) (395)

- Cannabis cultivation sites should be positioned where they are **not visible from public roadways**. (82)

- Cannabis cultivation sites should **not be allowed on public lands**, and illegal cultivation on public lands comes with **long-term environmental impacts**. (82) (401)

- Address **road, land maintenance, and restoration programs** that are able to fully offset the adverse effects of cultivation sites. (46)

- **Limit grow sites to agriculturally zoned lands** that have already been disturbed. (102)

- **Determine the number and size of grow sites in relation to the potential and regional population** served by the cultivation site. (82) (102)

- Concerns associated with the **speed at which cannabis farm registrations** are being processed, leading to an influx of cannabis crops before county planning departments can take action. (367)

- Concerns associated with **land use violations** by cannabis growers such as unregulated land grading and building of temporary housing. (29) (366)

- Require that all outdoor cultivation sites serviced by **roads meet the ingress and egress standards for residential dwellings**, regardless of whether a residential dwelling is present on the property, for safe and reliable access to firefighting apparatus and evacuation procedures. (104)

- Require **defensible space around indoor cultivation sites** and related structures that would otherwise not be subjected to those requirements but present similar ignition potential. (104)

- The PEIR should investigate the potential for **physical division of established communities** caused by cannabis cultivation operations. (29)

- **Zoning laws** must be changed to meet the increase in cannabis cultivation activity. (314)

- Zoning should allow up to 4 acres of cultivation on a parcel. (203)

- Zone off the needed cannabis cultivation acreage to **one specific and centralized area of land**. (317)

- Concerns associated with the lack of adequate square footage for cannabis grows needed to build security fencing and other related facilities. (242)

- Concerns associated with the lack of adequate square footage for cannabis grows to provide enough space between plants so that growers can work comfortably. (203)

- **Redefine the use of “premises”** found in the PEIR to include sections of a building or greenhouse that are separated by solid partitions. This will allow for simplified permitting and inspections, and increased security of cultivation sites. (191)
Open outdoor land used for cultivation operations should not be allowed to subdivide into individual sections. (191)

Can indoor cultivation be conducted in residential areas? (156)

Require counties and cities to uphold recorded deed restrictions prohibiting commercial use of property when considering applications for cannabis cultivation permits by denying these commercial licenses. (58)

Add to the license application a question asking whether or not a property has any private restrictive covenants to prevent commercial use of the land for cannabis cultivation. (58)

Allow for commercial cannabis cultivation on agricultural land. (299)

Base square footage size of cannabis cultivation sites on canopy size and not on number of plants. (78) (231)

Allow for the cannabis cultivation growth of 2,500 square feet provided that you only use the plants that you grow. (231)

Restrict cannabis cultivation to indoor growing that can be secured and well managed. (140)

Perform land use site inspections to determine if cultivation areas and structures can support cannabis production with minimum risk to its products and the environment. (80)

Suggestions regarding the proper design and operation of buildings and facilities associated with cannabis cultivation. (80)

Concerns that cannabis cultivation leads to exurban (low density) development, with impacts on biodiversity. (106)

Licensed cultivation sites should be closer to urban areas where resources can be readily available and carbon emissions from long drives to sites can be minimized. (75) (104)

Most people in the cannabis industry prefer outdoor cultivation over indoor cultivation grows. (218)

Limit the number of licenses to the amount of structures on a parcel, not per APN. (230)

Include the square footage of growing racks or trays when calculating the square footage of the total area allowed for cultivation. (247)

Concerns associated with the legal right to occupy and use a proposed location for cannabis cultivation. Requests that the applicant provide a statement from the owner of real property or their agent as proof to acknowledge landowner consent. (338)

Concerns associated with the compounded impacts of cannabis cultivation on the well-being of communities and neighborhoods where these sites are located. (91) (247) (364) (365) (366)
Concerns associated with in-home grows where individuals under the age of 21 reside, the desire for in-home grows to be registered with local law enforcement, and the amount of cannabis allowed to be grown by individuals. (372)

Projects should be required to meet Title 24 building guidelines. (391)

Concerns regarding the displacement of industrial uses from buildings and warehouses constructed for such uses. (394)

**Noise**

- Concerns associated with increased traffic and/or mechanical equipment noise at cannabis cultivation sites. (10) (82) (102) (106) (367) (394)
- Noise complaints should represent a significant impact under the CEQA checklist due to noise from the establishment and operation of cannabis cultivation sites. (104) (140)
- Concerns associated with the potential adverse effects of excess noise exposure to people and wildlife. (29) (75) (106)
- Concerns associated with the proper study of varying noise levels of cannabis cultivation operations such as land grading, construction, or mechanical equipment. (29)

**Population and Housing**

- Concerns associated with the impacts on real estate property value due to nearby cannabis cultivation. (98) (102) (120) (301) (366)
- Concerns associated with the growth and influx of people to neighborhoods and communities caused by the increase in cultivation sites and how this will affect the real estate market in the future. (29)

**Public Services**

- Restrict cannabis cultivation from the use of "agricultural" water rates for irrigation since it is more akin to a pharmaceutical operation rather than the cultivation of plants and animals for food and clothing. (313)
- Concerns associated with interference with emergency vehicles, law enforcement agencies, hospitals, and evacuations due to cultivation sites. (29) (75) (101) (104) (118)
- Concerns associated with the increased need for law enforcement and public service agencies to ensure that regulations are met and that cultivation site operations are legal. (10) (29) (85) (99) (102) (118) (138) (151) (238) (301) (314) (315) (367) (398)
Concerns associated with the costs to local and county departments for resources used to ensure that grow sites are safe and in compliance with regulations. (99) (102) (120) (238) (301) (315)

Concern associated with an increase in overall fire risks and incidents resulting in potential impacts to fire protection resources. Some impacts include longer response times and increased cost of fire protection. (104)

Concerns associated with the harassment and rights violation from law enforcement towards growers. Recommends that a representative from each cultivation site be appointed to escort inspectors onto and throughout the property. (164)

Provide adequate funding to supply advanced security measures to Board of Equalization district offices to ensure employees are safe. Board of Equalization offices are tasked with collecting, counting, and transporting significant amounts of cash from cannabis businesses. (99)

Concern associated with the requirement to ban firearms on cultivation sites and how this order and slow law enforcement response times will invite criminal activities to these areas. (105)

Require law enforcement to take a course on the regulations that are to be put in place for cannabis cultivation. (250)

Establish a county sheriff sub-station in close proximity to cannabis cultivation sites. (317)

Address intended outreach to local law enforcement and thresholds above which local agencies can seek CDFA assistance in addressing violations. Consider including incentives to local agencies partnering with CDFA in the implementation of CDFA regulations. (402)

Concerns regarding preventing cannabis theft and how thefts will be reported and addressed by local jurisdictions. (404)

Recreation

Concerns associated with the potential for outdoor grows to impact public recreational trails. (10)

Concerns associated with the potential loss of recreational facilities due to conversion of coastal land to cultivation sites. (20)

Transportation and Traffic

Concerns associated with the increased use of public and private roads to access cultivation sites. (10) (100) (120) (298) (75) (394)

Concerns associated with interference with emergency vehicles, law enforcement agencies, hospitals, and evacuations due to cultivation sites. (29) (75) (101) (104) (118)
Concerns associated with **damage to roads** caused by the trucking in of various supplies and materials needed for cannabis cultivation. (29) (104) (298)

Concerns associated with the **illegal construction of substandard roads** that are used to transport supplies to and from cultivation sites. (29) (75)

Concerns associated with **potential parking lot increases**. (120) (301)

Concerns associated with the environmental impacts caused by **increased traffic from transportation and employee vehicles** to and from cultivation sites. (140) (282) (98) (311)

Concerns associated with how increased cannabis cultivation operations may restrict public access to coastal visitor areas by **occupying existing coastal access roads.** (20)

**Utilities and Service Systems**

Concerns associated with **solid waste/trash accumulation and disposal** near or within cultivation sites. (10) (28) (29) (53) (75) (80) (93) (98) (106) (207) (263) (269) (366)

Concerns associated with increased **demands on utilities regarding electrical, mechanical, and plumbing infrastructure**. (10) (29) (120) (301)

Concerns associated with the potential use of **substandard septic systems** including open septic (pit toilets and surface drainage). (10)

Concerns associated with the **analysis and investigation of wastewater treatment and Clean Water Act violations/risks** caused by cannabis cultivation operations. (29) (80)

Study the possible **necessity to expand water treatment facilities** to accommodate increased demands from cultivation sites. (29)

Concerns associated with **violations of solid waste regulations** due to excessive garbage and waste on and near cultivation sites. (29) (75) (106)

Cultivators should prepare a **waste management plan** that documents actions taken to reduce and dispose of waste and recyclable material. (53) (80) (93)

Provide **remedial programs** that provide a means of waste material disposal for cultivators. (207) (263)

Comment suggesting the use of **zero waste indoor cultivation facilities.** (205)

**Alternatives Analysis**

The PEIR should contain an **adequate consideration of alternatives.** (46) (47) (100) (120) (136) (282)

Any proposed alternative should evaluate how it will impact all **aquatic, riparian, and terrestrial species** that are listed as sensitive, threatened, and/or endangered. (46) (47) (100) (120) (136) (282)
Compare alternatives with respect to how well they respond to and **comply with State statute and federal environmental laws**. (46) (47)

Alternatives should focus on **practicable mitigation measures** that will help to **reduce cannabis-related greenhouse gas emissions**. (46) (47)

Focus on alternatives to the proposed regulations that will **avoid or minimize extensive roadwork in watershed lands** that would exceed the threshold of concern for cumulative watershed effects. (46) (47)

Consider alternatives that **avoid or minimize extensive roadwork in sensitive areas** that would contribute to cumulative watershed impacts. (46) (47) (100) (120) (136) (282)

**Cumulative Considerations**

Concerns associated with the evaluation of any direct, indirect, or **cumulative impacts on all species listed as sensitive, threatened and/or endangered**. (46) (47) (82) (100) (120) (136) (282)

Consider alternatives that avoid or minimize extensive roadwork in sensitive areas that would contribute to **cumulative watershed impacts**. (46) (47) (100) (120) (136) (282)

Concerns associated with how the number of **indoor cultivation permits** issued will **cumulatively impact greenhouse gas emissions**. (46) (47) (100) (101) (120) (136) (282) (346)

Concerns associated with the **cumulative environmental impacts of sites located in sensitive natural areas**. (4) (47) (101) (147)

Concerns associated with the **increased loss of natural resources in residential areas** due to cannabis cultivation operations. (367)

Concern regarding the cumulative environmental impacts that could occur if the **Program takes up to 2 years to conduct enforcement on violations**. (315)

Impacts of **manufacturing, distribution, transportation, testing, and dispensary sites** should be studied. (29)

Consider cumulative impacts of past, existing, and reasonably foreseeable impacts. (395)

**PEIR CEQA Process**

- **Prohibit Findings of Overriding Consideration** from the EIR for cannabis grows. (102)
- Require **each individual grow to prepare its own EIR**. (102)
- Comment expressing thanks for providing a **Notice of Preparation** for the MCCP. (359)
Comments expressing thanks for allowing the **public to gather information** on the project, speak with government representatives, and to hear what their peers had to say. (113) (306) (349)

Comments expressing appreciation for the **openness to questions** regarding licensing and other legalities at the public scoping meeting. (349)

Comments expressing **appreciation to CDFA for holding a public scoping workshop.** (112) (213) (101) (285)

Comments expressing **appreciation for being able to provide comments** concerning the MCCP. (57) (71) (185) (285)

Comments expressing appreciation for **CDFA staff doing an excellent job** of providing an engaging and user friendly process for public participation. (31) (113)

**Format of public scoping workshops** is not good because of difficulty to hear speakers and the lack of information being provided to commenters about the MCCP. (229)

**NOP was insufficient** in evaluating potential environmental issues that could occur because of cannabis cultivation operations. (71) (398)

Numerous comments addressing **administrative and technical questions regarding the scoping workshops**. (116) (126) (158) (302) (304) (305) (321) (322) (325) (327) (329) (335) (336) (348) (350)

Program environmental review document should make clear that cultivation projects would be required to undergo **separate local project level environmental review.** (397)

Concern that written regulations for medical and nonmedical cannabis and the NOP do not highlight specifics of the marijuana identification program or potential significant environmental impacts associated with cultivation. (398)

**Expand the scope of some of the objectives** in the NOP addressing environmental impacts (Section 2.3). (400)

Request to **engage stakeholders from wider disciplines**, such as toxicologists, biologists, cannabis growers, enforcement officers, and land managers, to take into account every aspect of cultivation and fully address concerns. (400)

To the fullest extent possible, the PEIR should **allow local jurisdictions to tier off** when evaluating local regulations consistent with the CDFA regulations. (402)

**Others**

Concern associated with the **economic exploitation of cannabis cultivators.** (240)

Concern associated with the **increased demand for cannabis** that will result from legalization. (33)

Cannabis is a **dangerous, harmful drug** and the people need to be protected from it. (201) (270)
- Comments that oppose cannabis use and any cultivation operations. (359) (362) (363)
- Comments agreeing with the new medical cannabis regulations being established in order to mitigate usage and cultivation of medical cannabis by individuals with no actual medical need for it or intention of selling their product for medicinal purposes. (204)
- Comment offering remediation assistance from a private environmental consulting firm to cannabis growers. (207)
- Comment offering assistance to CDFA in providing a local perspective on the MCCP. (343)
- Comment offering assistance with cannabis licensing or regulations in Southern California. (291)
- There is already a substantial supply of medical cannabis on the market in California and, therefore, does not need any more production. (209) (306)
- Concerns associated with changing the perception of cannabis and cannabis growers. (212)
- Concerns associated with the consideration of existing businesses that a cultivation site will be located near or may affect. (233)
- Provide the public with a compiled list of local government agencies as a reference. (243)
- Concerns associated with the responsiveness of government agency legal staff to questions and comments raised by the public. (244)
- Farmers who already meet the requirements of registering farm plans with CEQA and are current with payments to the regional water quality control board for water monitoring should be given priority with obtaining cannabis permits/licenses. (281)
- Modify the cannabis industry to accommodate farmers so that it can have a chance to develop. (323) (326)
- Comment stating interest in starting a legal cannabis collective in California. (287)
- Request to meet with CDFA staff to discuss how best the State Water Board can best provide input on the PEIR. (288)
- Requesting to meet privately with CDFA staff to discuss any comments or concerns that the individual may have with the MCCP. (341)
- Requesting a resource in California where companies will be able to reach out to local cannabis growers about beneficial products for pesticide-free cultivation. (296)
- Approval of the MCCP and legalization of cannabis as a whole. (299)
- Projects should meet stringent product testing guidelines. (391)
- Projects should be required to follow local marketing orders used by other commodities (i.e. Date Commission, Grape Commission). (391)
- Clarify that program purpose includes all forms of cannabis (medical and recreational). (397)
- Clarify significance thresholds used to determine impacts. (397)
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Chapter 4
NEXT STEPS

Development of Draft Regulations

Comments received in the scoping process that relate to the scope and content of the regulations will be used in the development of the CalCannabis Cultivation Licensing regulations (program, or proposed program). CDFA will review comments, questions, and solicited feedback pertaining to the program’s regulatory goals and consider the best ways to implement the requirements of the Medical Cannabis Regulation and Safety Act and the Adult Use of Marijuana Act. It is anticipated that the following topics would be addressed in the regulations:

- definitions;
- applications for cultivation licenses;
- licensing fees and requirements;
- cultivation site requirements;
- track and trace requirements, records, and reporting;
- inspections; and
- enforcement.

Development of Draft PEIR

Comments that relate to the scope and content of the California Environmental Quality Act (CEQA) analysis will be used to inform the analysis contained in the draft program environmental impact report (PEIR). The draft PEIR will be available for public review and comment in the summer of 2017.

Ongoing Outreach

Comments received during the scoping period helped identify concerned parties and key stakeholders for ongoing outreach and coordination. Outreach will occur through the Program’s webpage and mailings. Interested parties who want to receive automatic Program updates via email can sign up at the CalCannabis listserv at www.cdfa.ca.gov/calcannabis/subscribe.html. Those with questions are encouraged to send an email to the following address: calcannabis@cdfa.ca.gov, or call (916) 263-0801. Questions can also be mailed directly to Lindsay Rains, Senior Environmental Scientist, at the following address:
Program Website Updates

The CalCannabis PEIR website (calcannabis.cdfa.ca.gov) will be available to the public throughout the CEQA process. The website will be updated for the public to review as additional information becomes available about the program or the CEQA process. This will include notice regarding circulation of draft regulations, the draft PEIR, and notification of public comment periods for these documents.

Other Opportunities for Public Involvement in the Proposed Regulations

The public has had the opportunity to submit comments on proposed regulations. CDFA announced the availability of proposed regulations and their comment period through its listserv and other means. The proposed regulations have been made available for download in electronic format on the website and, to the extent feasible, as a hard copy upon written request to CDFA. Interested individuals, agencies, and organizations can submit comments throughout the comment period, either online at the CalCannabis website or by mailing comments to CDFA, as directed.

Other Opportunities for Public Involvement in the PEIR

The public will have the opportunity to submit comments during the public review period for the draft PEIR, which will be open for at least 45 days. This comment period will begin with circulation of the draft PEIR. CDFA will announce the availability of the draft PEIR and comment period by issuing a Notice of Availability (NOA) to the State CEQA Clearinghouse, the 58 California county clerks, responsible and trustee agencies, agencies with jurisdiction by law, and other interested individuals and agencies who have joined the program listserv or otherwise requested notice (via standard mail and/or email). CDFA will also post the NOA on the Program website and issue newspaper announcements as appropriate. The draft PEIR will be made available for download in electronic format on the website, at a variety of libraries throughout the state, and, to the extent feasible, as a hard copy upon written request to CDFA. Interested individuals, agencies, and organizations will be able to submit comments throughout the comment period, either online at the program PEIR website or by emailing or mailing comments to CDFA, as directed in the NOA.

During the public review period CDFA also will conduct public workshops throughout California at accessible locations, similar to those conducted during the scoping period.
Appendix E

Summary of Existing and Proposed
Local Commercial Cannabis Cultivation Regulations
### Table E-1: Summary of County Commercial Ordinances (as of May 26, 2017)

<table>
<thead>
<tr>
<th>County</th>
<th>Cultivation Amount</th>
<th>Applicable Ordinance or Statute (Date Adopted)</th>
<th>Cultivation Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alameda</td>
<td>Cultivation prohibited.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alpine</td>
<td>Cultivation prohibited.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amador</td>
<td>Commercial cultivation not permitted. Cultivation for personal use only.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Butte      | Medical: Varies based on lot size; lots over 10 acres may designate 150 square feet to cultivation. Non-Medical: No more than six plants. | Butte County Code, Chapter 34A (Medical); Butte County Code, Chapter 34C (Non-Medical) | All Cultivation Types  
  - Cultivation is prohibited within 1,000 feet of a school or similar facility, 600 feet if a school bus stop, and 100 feet from an occupied residential structure on an adjacent parcel. Subject to setback requirements based on size of parcel.  
  - Cultivation is prohibited in any location where plants are visible from a public right of way. Outdoor grows must be fully enclosed by a solid and opaque fence at least 6 feet in height.  
  - Cultivation must have permitted permanent water well connection or connection to a municipal water source. No illegal discharges of water.  
  - Cultivation must be connected to municipalities’ sewer system or have a County-inspected and permitted sewage disposal system.  
  - Chemicals used in cultivation and/or harvest must be used, stored, and disposed of in accordance with applicable laws.  
  - Cultivation not permitted in commercial, industrial, or public zones.  

Nonmedical Cultivation  
- Any accessory structure must (1) comply with the Building Code; (2) be secure against unauthorized entry; (3) be accessible only through one or more lockable doors; (4) be constructed of approved building materials; (5) contain a ventilation and filtration systems to control odor; (6) be located in the rear yard area of a legal parcel or premises; (7) maintain appropriate setbacks.  
- Installation of electrical fixtures, plumbing, or ventilation/filtration systems, for the purpose of modifying an existing structure to meet the requirements of an accessory structure, shall require a Building Permit.  

Calaveras  
- Tiered licensing system based on type of cultivation and size of operation  
- Ordinance No. 3069 (May 10, 2016)  
- Must at all times ensure the health and safety of employees, visitors, and neighbors; protect the environment from harm to streams, fish, and wildlife; ensure the security of the medical cannabis; and safeguard against diversion of cannabis for non-medical purposes.  
- Must comply with all federal, state, and local laws.  
- Must comply with all laws and regulations related to use, storage, and disposal of hazardous substances.
<table>
<thead>
<tr>
<th>County</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colusa</td>
<td>Cultivation prohibited.</td>
</tr>
<tr>
<td>Contra Costa</td>
<td>Commercial cultivation not permitted. Cultivation for personal use only.</td>
</tr>
<tr>
<td>Del Norte</td>
<td>Cultivation prohibited.</td>
</tr>
<tr>
<td>El Dorado</td>
<td>Size of outdoor cultivation area restricted based on zoning district (typically limited to 200 square feet).</td>
</tr>
<tr>
<td></td>
<td>Ordinance No. 5000 (September 24, 2013)</td>
</tr>
<tr>
<td></td>
<td>Commercial cultivation prohibited. Cultivation allowed for personal use only. Outdoor medicinal cultivation subject to the following requirements:</td>
</tr>
<tr>
<td></td>
<td>▪ Cultivation must be screened from public view, and secured by a minimum six-foot high solid fence with locked gates.</td>
</tr>
<tr>
<td></td>
<td>▪ Must be set back 1,000 feet from school, park, or similar facility, and 50 to 100 feet from any property line depending on zoning.</td>
</tr>
<tr>
<td></td>
<td>▪ Must have legal water source. No illicit discharges or off-site drift of chemicals.</td>
</tr>
<tr>
<td></td>
<td>▪ Must be connected to public sewer or have an approved sewage system.</td>
</tr>
<tr>
<td></td>
<td>▪ Must use and dispose of chemicals in accordance with applicable laws.</td>
</tr>
<tr>
<td></td>
<td>▪ Cultivation must not adversely affect health or safety of nearby residents due to dust, noise, smoke, or odors.</td>
</tr>
<tr>
<td>Fresno</td>
<td>Cultivation prohibited.</td>
</tr>
<tr>
<td>Glenn</td>
<td>Commercial cultivation not permitted. Cultivation for personal use only.</td>
</tr>
<tr>
<td>Humboldt</td>
<td>Tiered permit system allowing up to 1 acre outdoors, 22,000 square feet for.</td>
</tr>
<tr>
<td></td>
<td>Ordinance No. 2559 (September 13, 2016)</td>
</tr>
<tr>
<td></td>
<td>Outdoor, mixed-light, and indoor commercial cultivation subject to zoning restrictions (generally limited to areas zoned for agriculture but may</td>
</tr>
<tr>
<td></td>
<td>be allowed in other zones with clearance certificate or use permit).</td>
</tr>
<tr>
<td></td>
<td>Electrical power for indoor cultivation shall be provided by on-grid power 100% renewable.</td>
</tr>
<tr>
<td>County</td>
<td>Ordinance Details</td>
</tr>
<tr>
<td>---------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Imperial</td>
<td>No cultivation ordinance adopted.</td>
</tr>
<tr>
<td>Inyo</td>
<td>Commercial cultivation ordinance pending.</td>
</tr>
<tr>
<td>Kern</td>
<td>Commercial cultivation not permitted. Cultivation for personal use only.</td>
</tr>
<tr>
<td>Kings</td>
<td>Commercial cultivation not permitted. Cultivation for personal use only.</td>
</tr>
</tbody>
</table>
| Lake    | **Indoor Cultivation:**  
          100 square feet  
          **Outdoor Cultivation:**  
          6 mature or 12 immature plants; collectives may cultivate up to 48 mature or 72 immature plants,  
          County Code, Article 72  
          **Indoor Cultivation:**  
          - Lighting must not exceed 1,200 watts.  
          - Cultivation areas must have ventilation and filtration systems to prevent odors or mold.  
          - Ventilation and filtration systems, along with any plumbing improvements, shall be installed with valid electrical and plumbing permits issued and inspected by the Lake County Building and Safety Division.  
          **Outdoor Cultivation:**  
          - Prohibited on any parcel that is located within a Community Growth Boundary as designated by the Lake County General Plan, and on any parcel that is 1 acre or smaller and located outside of... |
provided that cultivation is conducted on a parcel that is a minimum of 20 acres and located within the “A” Agriculture zoning district

any designated Community Growth Boundary.

- Must not be located 1,000 feet from schools, parks, or other similar land uses, and must be setback 75 feet from any property line.
- Cultivation sites must not be located within 100 feet of any spring, creek, or water feature. Must have a legal water source, and must not allow illicit discharges or off-site drift.
- Use of hazardous materials is prohibited in cultivation except for limited quantities below State threshold levels of 55 gallons of liquid, 500 pounds of solid, or 200 cubic feet of compressed gas. Any hazardous materials stored shall maintain a minimum setback distance of 100 feet from any private drinking water well, spring, etc. and 200 feet from any public water supply well.
- Cultivation must be screened from public view by a fully enclosed solid fence of minimum of 8 feet in height, with locked gates.

<table>
<thead>
<tr>
<th>Lassen</th>
<th>Cultivation prohibited.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Los Angeles</td>
<td>Cultivation prohibited.</td>
</tr>
<tr>
<td>Madera</td>
<td>Commercial cultivation not permitted. Cultivation for personal use only.</td>
</tr>
<tr>
<td>Marin</td>
<td>No cultivation ordinance adopted.</td>
</tr>
<tr>
<td>Mariposa</td>
<td>Commercial cultivation not permitted. Cultivation for personal use only.</td>
</tr>
</tbody>
</table>

Mendocino

Tiered licensing system subject to zoning requirements allowing up to 10,000 sq. ft. of cultivation area.

Ordinance No. 4381 (April 4, 2017)

- Cultivation prohibited within 1,000 feet of a school or similar facility. Outdoors or mixed-light cultivation prohibited within 100 feet of any residence.
- Cultivation prohibited in any location where the marijuana plants are visible from the public right-of-way.
- Indoor or mixed-light cultivation must rely on the electrical grid or some form of alternative energy source. Indoor or mixed-light cultivation may not rely on diesel generator as primary source of power. If generator is used, it must meet noise standards and have electrical wiring of sufficient capacity and installed in such a way as to provide for minimum safety standards.
- Cultivation must not subject residents of neighboring parcels to objectionable odors. Light assistance for outdoor cultivation must not exceed 35 watts per one sq. ft. of growing area. All lights shielded and downcast.
- Must not exceed applicable noise standards.
- May not utilize water that has been or is illegally diverted. Must comply with all statutes, regulations, and requirements of the SWRCB, Division of Water Rights.
- Must not create erosion or result in contaminated runoff. Must establish and maintain enrollment in Tier 1, 2, or 3 with the NCRWQCB Order No. 2015-0023.
- Outdoor cultivation must be contained within wildlife exclusionary fencing that includes a lockable gate.
- All buildings where marijuana is cultivated or stored must be properly secured to prevent unauthorized entry. Fuel, fertilizer, pesticide, etc. must be stored in secured and locked structure or device. Any use of pesticides must be consistent with state law and regulations.
<table>
<thead>
<tr>
<th>County</th>
<th>Commercial cultivation permitted.</th>
<th>Purposes allowed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Merced</td>
<td>Commercial cultivation not permitted. Cultivation for personal use only.</td>
<td></td>
</tr>
<tr>
<td>Modoc</td>
<td>Commercial cultivation not permitted. Collective cultivation for personal use allowed, but no commercial sales.</td>
<td></td>
</tr>
<tr>
<td>Mono</td>
<td>Commercial cultivation not permitted. Cultivation for personal use only.</td>
<td></td>
</tr>
<tr>
<td>Monterey</td>
<td>Permit required; canopy area varies based on type and size of facility; outdoor cultivation may cultivate up to 1 acre, while mixed light may cultivate up to 22,000 square feet.</td>
<td>Ordinance No. 5272 (July 19, 2016)</td>
</tr>
<tr>
<td>Napa</td>
<td>Commercial cultivation not permitted. Cultivation for personal use only.</td>
<td></td>
</tr>
<tr>
<td>Nevada</td>
<td>Commercial cultivation not permitted. Cultivation for personal use only.</td>
<td></td>
</tr>
</tbody>
</table>

- May not remove any commercial tree species for purpose of developing cannabis cultivation site.
- Must maintain applicable “defensible space” protocols and distances around structures, as established by CAL FIRE.
- Indoor or mixed-light cultivation must be equipped with filtered ventilation systems or other effective odor control mechanism to control cannabis odors.
- At the time of this writing, Monterey County does not allow outdoor commercial cultivation. Cultivation will only be allowed in existing warehouse and greenhouse facilities in industrial and farmland zoning designations.
- Only allowed in Light Industrial (LI), Heavy Industrial (HI), Agricultural Industrial (AI), or Farmland zones.
- In no case shall a building intended for residential use be used for cultivation.
- May not be located within 600 feet of a school, public park, or drug recovery facility.
- Water conservation measures, water capture systems, or grey water systems shall be incorporated in cultivation operations to minimize use of water where feasible.
- On-site renewable energy generation shall be required for all indoor cultivation activities. Renewable energy systems shall be designed to have a generation potential equal to or greater than one half of the anticipated energy demand.
- Cannabis plants shall not be visible from off-site.
- Odor prevention devices and techniques shall be incorporated to ensure that odors are not detectable off-site.
- Cannabis must be stored in a secured and locked safe room, safe or vault, and in a manner to prevent diversion, theft, and loss. Appropriate security measures, including lighting and alarms, must be employed.
- Permittee shall comply with all applicable federal, state, and local laws, including County building, zoning, and health codes.
- Must follow all pesticide use requirements of local, state, and federal law.
- Must follow all local, state, and federal requirements for waste disposal.
- Use of hazardous, flammable, or explosive substances is prohibited.
- Pesticides and fertilizers shall be properly labeled and stored to avoid contamination through erosion, leakage, or inadvertent damage from rodents, pests, or wildlife.
<table>
<thead>
<tr>
<th>County</th>
<th>Ordinance Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orange</td>
<td>No cultivation ordinance adopted.</td>
</tr>
<tr>
<td>Placer</td>
<td>Commercial cultivation not permitted. Cultivation for personal use only.</td>
</tr>
<tr>
<td>Plumas</td>
<td>Commercial cultivation ordinance pending.</td>
</tr>
<tr>
<td>Riverside</td>
<td>Cultivation prohibited.</td>
</tr>
<tr>
<td>Sacramento</td>
<td>Commercial cultivation not permitted. Cultivation for personal use only.</td>
</tr>
<tr>
<td>San Benito</td>
<td>Commercial cultivation not permitted. Cultivation for personal use only.</td>
</tr>
<tr>
<td>San Bernardino</td>
<td>Commercial cultivation not permitted. Cultivation for personal use only.</td>
</tr>
<tr>
<td>San Diego</td>
<td>Commercial cultivation not permitted. Cultivation for personal use only.</td>
</tr>
<tr>
<td>San Francisco</td>
<td>Commercial cultivation not permitted. Cultivation for personal use only.</td>
</tr>
<tr>
<td>San Joaquin</td>
<td>Cultivation prohibited.</td>
</tr>
<tr>
<td>San Luis Obispo</td>
<td>Commercial cultivation ordinance pending.</td>
</tr>
<tr>
<td>San Mateo</td>
<td>Commercial cultivation not permitted. Collective cultivation for personal use allowed, but no sales.</td>
</tr>
<tr>
<td>Santa Barbara</td>
<td>Commercial cultivation not permitted. Cultivation for personal use only.</td>
</tr>
<tr>
<td>Santa Clara</td>
<td>Commercial cultivation not permitted. Cultivation for personal use only.</td>
</tr>
</tbody>
</table>

**Santa Cruz**

Licensing system, as follow:
- **Category (A) Cottage Garden License** – Allows cultivation of up to 200 square feet of garden canopy;
- **Category (B) Level One Cultivator License** – Allows cultivation of up to 500 square feet of garden canopy

**Ordinance No. 5216 (2015)**

**Cottage Garden Licenses**
- Must not be located within the urban area defined by either the urban services line or the rural services line.
- May not cultivate cannabis within 600 feet of a habitable structure on neighboring parcel, municipal boundary, perennial stream, school, or park.
- Cultivation must not be visible from any adjacent public right-of-way.

**Level One Cultivator Licenses**
- All cottage garden restrictions described above apply.
- Must be located in a zone district designated as SU (Special Use), TP (Timber Production), CA (Commercial Agriculture), A (Agriculture), AP (Agriculture Preserve) or RA (Residential Agriculture).

**All License Types**
- For indoor cultivation, must be able to provide written certification from licensed electrician that cultivation location has all necessary electrical permits required by California Building Codes.
- For outdoor cultivation, must enclose the cultivation area by opaque fence at least six feet in height, and secure area by a locked gate to prevent unauthorized entry.
- Must comply with all requirements of County Code Title 16, Environmental and Resource
<table>
<thead>
<tr>
<th>County</th>
<th>Commercial cultivation not permitted. Cultivation for personal use only.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shasta</td>
<td></td>
</tr>
<tr>
<td>Sierra</td>
<td></td>
</tr>
<tr>
<td>Siskiyou</td>
<td></td>
</tr>
<tr>
<td>Solano</td>
<td></td>
</tr>
<tr>
<td>Sonoma</td>
<td>Outdoor maximum is one acre; indoor/mixed-light is 22,000 square feet.</td>
</tr>
</tbody>
</table>

Protection, and requirements of other code titles related to water conservation, water wells, and water systems.

- May not use a generator, hazardous materials, or flammable products in cultivation.
- Must contain all irrigation runoff, fertilizer, and contaminants on site.
- May not use water from any water source that is not located on the parcel on which cultivation is taking place.
- For indoor cultivation, must use a commercial air scrubbing device that prevents cannabis odors from escaping the structure where cultivation takes place.
- May not possess, store, or use any firearm on parcel where cultivation takes place.

Ordinance No. 6189 (December 20, 2016)

- All indoor, greenhouse, and mixed-light operations must be equipped with odor control filtration and ventilation system(s) to control odors, humidity, and mold. All cultivation sites must utilize dust control measures on access roads and all ground disturbing activities.
- Electrical power for indoor and mixed-light cultivation shall be provided by any combination of the following: (i) on-grid power with one hundred percent renewable source; (ii) on-site zero net energy renewable source; or (iii) purchase of carbon offsets of any portion of power not from renewable sources. The use of generators is prohibited except for temporary use in emergencies.
- All cultivation operations that utilize hazardous materials shall comply with all applicable local and state laws and regulations and maintain permits with appropriate agencies.
- Cultivators must comply with all applicable federal, state, and local laws and regulations related to occupational safety, including CAL/OSHA, OSHA, and the California Agricultural Labor Relations Act.
- Must develop waste management plan. All garbage and refuse must be stored in appropriate, sealed containers.
- Must develop waste water management plan identifying the amount of waste water, excess irrigation and domestic wastewater anticipated, as well as disposal. Cultivation must comply with BMPs issued by the Agricultural Commissioner and submit verification of compliance with the Waste Discharge Requirements of the applicable RWQCB. Excess irrigation water or effluent must be directed to a sanitary sewer, septic, irrigation, greywater, or bio-retention treatment system. All domestic waste for employees must be disposed of in a permanent sanitary sewer or on-site septic system demonstrated to have adequate capacity.
- Must have adequate on-site water supply, such as municipal water connection, recycled water, surface water right, or well water. Trucked water is not allowed.
<table>
<thead>
<tr>
<th>County</th>
<th>Cultivation Status</th>
<th>Ordinance Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stanislaus</td>
<td>Cultivation prohibited.</td>
<td></td>
</tr>
<tr>
<td>Sutter</td>
<td>Commercial cultivation not permitted. Cultivation for personal use only.</td>
<td></td>
</tr>
<tr>
<td>Tehama</td>
<td>Commercial cultivation not permitted. Cultivation for personal use only.</td>
<td></td>
</tr>
<tr>
<td>Trinity</td>
<td></td>
<td>Ordinance No. 315-816 (August 10, 2016)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Groundwater wells used for cultivation must be equipped with a meter or sounding tube or other water level sounding device. Groundwater monitoring reports must be submitted to County Permit Department annually.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• May not be located within 1,000 feet of a youth-oriented facility, a school, any church, or residential treatment facility, or within 500 feet of a school bus stop. Cultivation is not permitted in any location where cannabis plants are visible from the public right-of-way.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• May not be located within the Trinity County jurisdiction of the Whiskeytown-Shasta-Trinity National Recreation Area or within the boundaries of the Ruth Lake Community Service District.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Not permitted in Timber Production Zones (TPZ), with certain limited exceptions.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• May not be located in Residential 1 (R1), Residential 2 (R2), or Residential 3 (R3) Zones.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• May not exceed the noise level standards as set forth in the County General Plan.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Must comply with all State laws regarding surface water. May not use water that has been or is illegally diverted from any stream, creek, river, or water source.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Must not create erosion or result in contaminated runoff into any stream, creek, river, or body of water. If property has more than a 35% slope, must apply for Tier 2 of the NCRWQCB Order 2015-0023.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Outdoor cultivation must be contained within Wildlife Exclusionary Fencing, with lockable gate.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• All buildings used for cultivation must be properly secured to prevent unauthorized entry.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Any fuel, fertilizer, pesticide, fungicide, rodenticide, herbicide or other substance toxic to wildlife, children, or pets must be stored in secured, locked structure or device.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Must comply with applicable state and local laws related to hazardous materials and wastes, and Hazardous Materials program administered by Trinity County Environmental Health Division.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Rodenticides requiring a California Restricted Materials permit are not permitted.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• All lighting associated with cultivation shall be downcast, shielded, and/or screened to keep light from emanating off-site or into the sky.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Cultivation must comply with CAL FIRE, CDFW and any other resource agency having jurisdiction.</td>
</tr>
<tr>
<td>Tulare</td>
<td>Commercial cultivation not permitted. Collective cultivation allowed but no sales; distribution to member patients only.</td>
<td></td>
</tr>
<tr>
<td>Tuolumne</td>
<td>Commercial cultivation prohibited. Cultivation for personal use only.</td>
<td></td>
</tr>
<tr>
<td>Ventura</td>
<td>No cultivation ordinance adopted.</td>
<td></td>
</tr>
<tr>
<td>Yolo</td>
<td>Up to one acre.</td>
<td>Ordinance No. 1467 (April 21, 2016); Ordinance No. 1473</td>
</tr>
<tr>
<td></td>
<td>• Outdoor cultivation is prohibited within 1,000 feet of a school or similar land use, or within 75 feet of any occupied residence on separate parcel.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Cultivation area must be fully enclosed by an opaque fence at least 6 feet in height, which is</td>
<td></td>
</tr>
<tr>
<td>Yuba</td>
<td>Commercial cultivation prohibited. Cultivation for personal use only.</td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>(November 24, 2016); Ordinance No. 1483 (February 9, 2017)</td>
<td>adequately secured by a locked gate. Evidence of cultivation shall not be visible from the public right-of-way.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Use of light assistance for outdoor cultivation shall not exceed 600 watts per 100 square feet of growing area.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• All lights used for cultivation shall be shielded and downcast.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• May not use water that has been illegally diverted from any stream, creek, river, ditch, or any other body or source of water.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• All buildings where marijuana is stored shall be properly secured to prevent unauthorized entry.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Outdoor cultivation must be in compliance with Central Valley Regional Water Quality Control Board Order No. R5-2015-0133.</td>
<td></td>
</tr>
</tbody>
</table>
### Table E-2. Summary of Commercial Cannabis Cultivation Ordinances in the Ten Largest California Cities (by population) (as of May 26, 2017)

<table>
<thead>
<tr>
<th>City</th>
<th>Cultivation Amount</th>
<th>Applicable Ordinance (Date Adopted)</th>
<th>Protective Measures</th>
</tr>
</thead>
</table>
| Los Angeles | Medical marijuana businesses, including those that may cultivate marijuana, are prohibited, but are provided immunity from enforcement; no limits on the number of plants that may be grown are apparently specified in the ordinance | Ordinance No. 182,580 (June 20, 2013)                    | • May not remain open or operate between the hours of 8 pm and 10 am.  
• Marijuana may not be visible from the exterior of the premises.  
• May not illuminate any portion of its premises during the closure hours by lighting that is visible from the exterior of the premises, except such lighting as is reasonably utilized for the security of the premises.  
• May not provide ingress or egress to the business immediately adjacent to any land zoned residential. A medical marijuana business must be separated from a residential zone by a public thoroughfare with a minimum roadway width of 80 feet.  
• A medical marijuana business may not be located within 1,000 feet of a school, or within 600 feet of a public park, library, church, or similar land use. |
| San Diego  | Commercial cultivation not permitted. Cultivation for personal use only.             |                                                        |                                                                                                                                                                                                                      |
| San Jose   | Ordinance regulates medical marijuana collectives; no plant/amount limits apparently specified. Collectives may not operate for profit. | Ordinance No. 29421 (July 18, 2014)  
Ordinance No. 29664 (January 5, 2016)  
Ordinance No. 29805 | • Outdoor cultivation is prohibited.  
• Collective cultivation subject to zoning restrictions. Collectives only allowed in Light Industrial, Heavy Industrial, Combined Industrial/Commercial, Industrial Park, and Downtown Primary Commercial (2nd story only).  
• Must have security system, including video cameras and alarm system.  
• Exterior lighting must not result in glare.  
• No cultivation may be visible from public or private property.  
• Cultivation areas must be secured from public access by means of a lockable gate.  
• Must have legal water source.  
• Cultivation may not cause adverse effects associated with mold, mildew, dust, glare, heat, noise, noxious gasses, odor, smoke, traffic, vibration, hazardous materials, etc.  
• Cultivation must employ proper storage of chemicals and fertilizers.  
• Must install air scrubbers/purification systems to prevent odor. |
<table>
<thead>
<tr>
<th>City</th>
<th>Cultivation Amount</th>
<th>Applicable Ordinance (Date Adopted)</th>
<th>Protective Measures</th>
</tr>
</thead>
</table>
| San Francisco | Commercial cultivation not permitted. Cultivation for personal use only. | Ordinance No. 2016-0051              | - Outdoor cultivation prohibited.  
- All entrances into buildings on the cultivation site must be locked at all times.  
- Cultivation site must employ security requirements, including surveillance cameras, and alarm system.  
- Must prevent odors from escaping the buildings on cultivation site such that odor can be detected outside of buildings.  
- Must maintain the exterior of the cultivation site, including any parking lots under control of permittee, free of litter, debris, and trash.  
- Must properly store and dispose of all waste generated on the cultivation site, including chemical and organic waste, in accordance with all applicable laws and regulations. |
| Fresno       | Cultivation prohibited.                                 | Ordinance No. 2016-0051              |                                                                                  |
| Sacramento  | Tiered permit system as follows:  
Class A, for indoor cultivation of less than or equal to 5,000 sq. ft. of total canopy;  
Class B, for indoor cultivation of between 5,001 and 10,000 sq. ft. of total canopy;  
Class C, for indoor cultivation of between 10,001 and 22,000 sq. ft. of total canopy. | Ordinance No. 2016-0051              | - Must be located in area where “light manufacturing industrial,” “research and development,” or their equivalent use, is permitted by right under the Oakland Planning Code.  
- Cultivation may not occur within 600 feet of any school  
- No cannabis or cannabis odors shall be detectable by sight or smell outside of a permitted facility.  
- Permitted facilities must install security cameras capable of documenting activity inside and outside the facility, as determined by the Oakland Police Department.  
- Permitted facilities must implement a community beautification plan to reduce illegal dumping, littering, graffiti, and blight and promote beautification of the adjacent community. |
| Long Beach   | Cultivation prohibited.                                 | Ordinance No. 2016-0051              |                                                                                  |
| Oakland      | Permit required. Maximum size of any areas of cultivation shall not exceed any limitations or restrictions set forth in state law | Ordinance No. 2016-0051              |                                                                                  |
| Bakersfield  | No cultivation ordinance adopted.                       | Ordinance No. 2016-0051              |                                                                                  |
| Anaheim      | Cultivation prohibited.                                 | Ordinance No. 2016-0051              |                                                                                  |
Appendix F

Human Health and Ecological Screening Risk Evaluation
Human Health and Ecological Screening Risk Evaluation

Prepared for:
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October 25, 2017
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
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</tr>
</thead>
<tbody>
<tr>
<td>TABLE OF CONTENTS</td>
<td>i</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>ii</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>ii</td>
</tr>
<tr>
<td>LIST OF ATTACHMENTS</td>
<td>ii</td>
</tr>
<tr>
<td>LIST OF ABBREVIATIONS</td>
<td>ii</td>
</tr>
<tr>
<td>Limitations</td>
<td>vi</td>
</tr>
<tr>
<td>1 Executive Summary</td>
<td>1</td>
</tr>
<tr>
<td>2 Introduction</td>
<td>2</td>
</tr>
<tr>
<td>2.1 Purpose</td>
<td>2</td>
</tr>
<tr>
<td>2.2 Scope</td>
<td>2</td>
</tr>
<tr>
<td>Selection of Ingredients Assessed</td>
<td>2</td>
</tr>
<tr>
<td>Receptors Evaluated</td>
<td>6</td>
</tr>
<tr>
<td>2.3 Approach</td>
<td>6</td>
</tr>
<tr>
<td>3 Toxicological Data Summaries</td>
<td>8</td>
</tr>
<tr>
<td>3.1 Human Toxicology Summary Data</td>
<td>8</td>
</tr>
<tr>
<td>3.2 Ecotoxicology Summary Data</td>
<td>9</td>
</tr>
<tr>
<td>4 Potential Exposure and Receptors</td>
<td>10</td>
</tr>
<tr>
<td>4.1 Human Receptors</td>
<td>10</td>
</tr>
<tr>
<td>4.2 Ecological Receptors</td>
<td>10</td>
</tr>
<tr>
<td>4.3 Conceptual Site Models</td>
<td>11</td>
</tr>
<tr>
<td>5 Conclusions</td>
<td>14</td>
</tr>
<tr>
<td>5.1 Human Risk</td>
<td>14</td>
</tr>
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<td>5.2 Ecological Risk</td>
<td>15</td>
</tr>
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<td>Birds</td>
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<td>Mammals (see Toxicity section under Human Risk for additional information)</td>
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<td>Aquatic Invertebrates</td>
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<td>6 References</td>
<td>18</td>
</tr>
<tr>
<td>Attachment A: Active Ingredient Summaries</td>
<td>19</td>
</tr>
<tr>
<td>Attachment B: Permissible and Recommended Exposure Limits</td>
<td>20</td>
</tr>
</tbody>
</table>
LIST OF TABLES

Table 1: Pesticide Active Ingredients Selected for Analysis ......................................................... 4
Table 2: Example Pesticide Products by Active Ingredient Assessed ............................................. 5

LIST OF FIGURES

Figure 1: Pesticide Active Ingredient Selection Process Diagram .................................................. 3
Figure 2: CalCannabis Cultivation Licensing Program Human Conceptual Site Model .......... 12
Figure 3: CalCannabis Cultivation Licensing Program Ecological Conceptual Site Model for
Outdoor Cultivation Sites ........................................................................................................ 12

LIST OF ATTACHMENTS

Attachment A: Active Ingredient Summaries .......................................................... A1
Attachment B: Permissible and Recommended Exposure Limits ....................................... B1

LIST OF ABBREVIATIONS

ARB ............................................................... Air Resources Board
ATSDR .......................................................... Agency for Toxic Substances and Disease Registry
BRAD ............................................................ Biopesticides Registration Action Document
CalPIQ ........................................................ California Pesticide Illness Query
Cal/OSHA ........................................................ California Division of Occupational Safety and Health
CAS # ............................................................. Chemical Abstract Services Number
CCR .............................................................. California Code of Regulations
CDA .............................................................. Colorado Department of Agriculture
CDFA ............................................................ California Department of Food and Agriculture
CFR .............................................................. Code of Federal Regulations
cfu ............................................................... Colony Forming Units
CGA .............................................................. California Growers Association
CNS ............................................................. Central Nervous System
CSM ............................................................. Conceptual Site Models
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
</tr>
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<tbody>
<tr>
<td>DAF</td>
<td>Dermal Absorption Factor</td>
</tr>
<tr>
<td>DPR</td>
<td>California Department of Pesticide Regulation</td>
</tr>
<tr>
<td>EC$_{50}$</td>
<td>Median Effective Concentration</td>
</tr>
<tr>
<td>ECHA</td>
<td>European Chemical Agency</td>
</tr>
<tr>
<td>ECOTOX</td>
<td>USEPA’s ECOTOXicology knowledgebase</td>
</tr>
<tr>
<td>EDSP</td>
<td>Endocrine Disruption Screen Program</td>
</tr>
<tr>
<td>EDTA</td>
<td>Ethylenediaminetetraacetate</td>
</tr>
<tr>
<td>EEC</td>
<td>Estimated Environmental Concentration</td>
</tr>
<tr>
<td>EFSA</td>
<td>European Food Safety Authority</td>
</tr>
<tr>
<td>EMEA</td>
<td>European Medicines Agency</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>FDA</td>
<td>United States Food and Drug Administration</td>
</tr>
<tr>
<td>FDRL</td>
<td>Food and Drug Research Laboratories</td>
</tr>
<tr>
<td>FIFRA</td>
<td>Federal Insecticidal, Fungicide, and Rodenticide Act</td>
</tr>
<tr>
<td>FQPA</td>
<td>Food Quality Protection Act</td>
</tr>
<tr>
<td>GRAS</td>
<td>Generally Recognized as Safe</td>
</tr>
<tr>
<td>Ha</td>
<td>Hectare</td>
</tr>
<tr>
<td>HHESRE</td>
<td>Human Health and Ecological Screening Risk Evaluation</td>
</tr>
<tr>
<td>HSDB</td>
<td>Hazardous Substances Data Bank</td>
</tr>
<tr>
<td>IU</td>
<td>International Unit</td>
</tr>
<tr>
<td>ITU</td>
<td>International Toxic Unit</td>
</tr>
<tr>
<td>kg</td>
<td>Kilogram</td>
</tr>
<tr>
<td>K$_{oc}$</td>
<td>Organic Carbon Water Partitioning Coefficient</td>
</tr>
<tr>
<td>K$_{ow}$</td>
<td>Octanol/Water Partitioning Coefficient</td>
</tr>
<tr>
<td>LC$_{50}$</td>
<td>Median Lethal Concentration</td>
</tr>
<tr>
<td>LD$_{50}$</td>
<td>Median Lethal Dose</td>
</tr>
</tbody>
</table>
Appendix F

LOAEC .......................................................... Lowest Observed Adverse Effect Concentration
LOEC .......................................................... Lowest Observed Effect Concentration
LOEL .......................................................... Lowest Observed Effect Level
mg ........................................................... Milligram
mL ........................................................... Milliliter
mmHg ......................................................... Millimeters Mercury
MSDS ......................................................... Material Safety Data Sheet
NIJ ........................................................... National Institute of Justice
NIOSH ....................................................... National Institute for Occupational Safety and Health
NOAEC ...................................................... No Observed Adverse Effect Concentration
NOAEL ....................................................... No Observed Adverse Effect Level
NOEC ......................................................... No Observed Effect Concentration
NOEL ........................................................ No Observed Effect Level
NTP .......................................................... National Toxicology Program
OECD ......................................................... Organization for Economic Co-operation and Development
OEHHA ........................................................ Office of Environmental Health Hazard Assessment
Pa .............................................................. Pascals
PC ............................................................. Penal Code
PEIR .......................................................... Program Environmental Impact Report
PEL ........................................................... Permissible Exposure Limit
PISP ........................................................... Pesticide Illness Surveillance Program
PPE ........................................................... Personal Protection Equipment
PPLS .......................................................... Pesticide Product Label System
ppm ........................................................... Parts per Million
PSIS .......................................................... Pesticide Safety Information Series
RCD .......................................................... Risk Characterization Document
RED..............................................................Reregistration Eligibility Decision
REI .............................................................Restricted-Entry Interval
REL ............................................................Recommended Exposure Limit
RTI ..............................................................Restricted-Time Interval
SDS .............................................................Safety Data Sheet
SWRCB.......................................................State Water Resources Control Board
TLm .............................................................Median Tolerance Level
USDA ..........................................................United States Department of Agriculture
USEPA ..........................................................United States Environmental Protection Agency
USPTO ..........................................................United States Patent and Trademark Office
WHO ............................................................World Health Organization
μg ...............................................................Microgram
Limitations

Services provided by Blankinship & Associates, Inc. and Ardea Consulting related to the California Department of Food and Agriculture were prepared consistent with the level of care and skill ordinarily exercised by other professionals under similar circumstances at the same time the services were performed under the terms of agreement with Horizon Water & Environment, LLC and the California Department of Food and Agriculture. No warranty, guarantee or certification, express or implied, is included. This report is solely for the California Department of Food and Agriculture’s use. Any reliance on this report by a third party is not authorized and is at such party’s sole risk.
1 Executive Summary

This report provides a screening level human health and ecological risk evaluation associated with pesticides and repellants that may be used by cultivators under the California Department of Food and Agriculture’s (CDFA’s) CalCannabis Cultivation Licensing program. The list of pesticides and repellants that is evaluated in this report was developed based on interviews with cannabis cultivators, an anonymous survey, and a list of pesticide active ingredients not prohibited by the California Department of Pesticide Regulation. A total of thirty-nine (39) pesticide active ingredients were identified as used by cultivators and not prohibited from use. The environmental fate and toxicity were summarized in thirty-two (32) pesticide evaluations.

For each pesticide active ingredient evaluated, adverse human health effects are not anticipated for the exposure pathways and durations of exposure anticipated for the cultivator. In some cases, due to the lack of product label instructions and/or training, exposures may result in potential adverse effects. These effects, however, are expected to be limited to local irritation and are not anticipated to be serious, permanent, nor prolonged. Because in some cases product labels may insufficiently inform cultivators on how to minimize their exposure, educational materials and training are recommended to reduce the likelihood and magnitude of exposure and reduce potential risk.

The potential for adverse effects to the following groups of ecological receptors was considered: birds, mammals, amphibians, reptiles, pollinators, soil-dwelling invertebrates, fish, and aquatic invertebrates. Ecotoxicity data were sparse or lacking for many ingredients for many of these groups. No pesticide active ingredient evaluated was likely to cause adverse effects to birds, terrestrial-phase amphibians or reptiles. Several pesticide active ingredients appeared potentially harmful to pollinators, leading to a recommendation that applications of pesticides should not occur when pollinators are present or be allowed to drift to flowering plants attractive to pollinators. Additionally, multiple active ingredients appeared potentially harmful to aquatic species, leading to a recommendation that pesticides should not be sprayed directly to surface water or be allowed to drift or otherwise move to surface waters. Additional control measures are also proposed that, when followed, will reduce exposure to ecological receptors such that substantial adverse effects are not likely to occur.
2 Introduction

2.1 Purpose

This Human Health and Ecological Screening Risk Evaluation (HHESRE) presents a list of pesticides that have been undergone a screening level evaluation for the potential risk to human health and the environment from the use of such pesticides in the Proposed Program.

The hazards and hazardous materials, biological resources, air quality, and water quality impact analysis sections of the Program Environmental Impact Report (PEIR) will make use of the conclusions of this HHESRE to assess the potential for Proposed Program activities to result in significant impacts on human health or the environment.

2.2 Scope

The initial task was to identify the pesticides used by cultivators, and to determine which among those pesticides are not prohibited from use on cannabis by the U.S. Environmental Protection Agency (USEPA) and California Department of Pesticide Regulation (DPR). This HHESRE considers the potential impacts of human and ecological receptor exposures resulting from the use by cannabis cultivators of the list of pesticides identified in this initial task.

Selection of Ingredients Assessed

Grower Pest and Pesticide Survey

Members of the California Growers Association (CGA), the California Cannabis Industry Association (CCIA) and other unaffiliated cultivators were surveyed in person and with an anonymous paper and on-line survey regarding pests encountered and pesticides used. In some cases, surveys were completed during one of ten (10) cannabis cultivation, nursery or supply store site visits. Six (6) of the ten (10) site visits were conducted in either Sonoma, Mendocino, Humboldt or Trinity Counties. Additional surveys were completed during one of the eight (8) Scoping meetings held throughout the state. Sixty-three (63) responses were received. Powdery mildew, mites, bud rot, caterpillars, and fusarium wilt were among the most frequently and commonly reported pests or diseases and one hundred and six (106) different active ingredients were reported as used.

Although not rigorous and not intended to be representative of all cannabis cultivators throughout California, the results nonetheless provided a preliminary look into commonly encountered pests and pesticides used.

Pesticide Active Ingredients List Development

Pesticide active ingredients were selected for analysis based on the following conditions:

Condition 1: The pesticide active ingredient must be identified as exempt from food residue tolerance requirements according to 40 Code of Federal Regulations (CFR), Chapter I, Subchapter E, Part 180.
Condition 2: The pesticide active ingredient must also be:

A) A minimum-risk pesticide exempt from registration requirements according to the Federal Insecticide Fungicide and Rodenticide Act (FIFRA) Section 25(b) (USEPA, 2015) and a reduced-risk pesticide according to 3 California Code of Regulations (CCR) Section 6147, or

B) Registered for a use that is broad enough to include use on cannabis. DPR has identified active ingredients that have registrations broad enough for use on cannabis (DPR, 2017; DPR, 2016). The determination of whether or not a pesticide meets the broadly labeled criteria is made by DPR or the local County Agricultural Commissioner.

As the list of potential pesticide active ingredients meeting Conditions 1 and 2A is sufficiently large to prohibit full analysis of each, the list of active ingredients meeting these conditions was further narrowed by comparing them to the list of active ingredients used by growers. Several active ingredients were identified that met Conditions 1 and 2A, are used by growers, and are not listed in 2B. These active ingredients were added to the list of active ingredients evaluated in this analysis.

The active ingredient selection process is illustrated in Figure 1 below:

*Figure 1: Pesticide Active Ingredient Selection Process Diagram*
In addition to the pesticides listed by DPR as not prohibited from use, Table 1 lists ingredients selected for analysis based on the criteria above. A list of example products containing the active ingredients analyzed is presented Table 2.

**Table 1: Pesticide Active Ingredients Selected for Analysis**

<table>
<thead>
<tr>
<th>Active Ingredient(s)</th>
<th>Residue Tolerance Exempt (40 CFR 180)</th>
<th>Registration Exempt (FIFRA 25b and 3 CCR 6147)</th>
<th>Designated As Not Prohibited by DPR (a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Azadirachtin</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td><em>Bacillus amyloliquefaciens</em> strain D474</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td><em>Bacillus subtilis</em>, QST 713</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td><em>Bacillus thuringiensis</em> (b)</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td><em>Beauveria bassiana</em> (c)</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td><em>Burkholderia</em> spp. strain A396</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Capsaicin</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Cinnamon Oil</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Citric Acid</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Cloves and Clove Oil</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Corn Oil</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Cottonseed Oil</td>
<td>x</td>
<td>x</td>
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<tr>
<td>Soybean Oil, Castor Oil, Thyme Oil, and Geraniol</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>Garlic and Garlic oil</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td><em>Gliocladium virens</em></td>
<td>x</td>
<td>x</td>
<td>x</td>
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<td>Horticultural Oils (Petroleum Oils) (d)</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<td>Insecticidal Soap (Potassium Salts of Fatty Acids)</td>
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<tr>
<td><em>Isaria fumosorosea</em></td>
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<td>x</td>
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<td>Neem Oil (e)</td>
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<td>x</td>
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<tr>
<td>Peppermint Oil</td>
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<td>x</td>
<td>x</td>
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<tr>
<td>Potassium Bicarbonate, Sodium Bicarbonate</td>
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</tr>
<tr>
<td>Potassium Silicate</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>Potassium Sorbate</td>
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<td>Predatory Nematodes</td>
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<td>x</td>
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<tr>
<td>Putrescent Whole Egg Solids</td>
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<td>x</td>
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<tr>
<td>Rosemary Oil</td>
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<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Sesame and Sesame Oil</td>
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<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Sodium Chloride</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>Sodium Ferric EDTA, Iron Phosphate</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td><em>Reynoutria sachalinensis</em> Extract</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Sulfur</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td><em>Trichoderma harzianum</em> (c)</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

(a) These products were declared ‘not prohibited’ for use on cannabis by DPR (2017, 2016).
(b) Includes subspecies *israelensis* and *kurstaki*.
(c) Includes only strains that are both registered for use on food crops intended for human consumption and residue tolerance exempt (40 CFR 180).
(d) Includes only petroleum-based horticultural oils. Vegetable oils are not included.
(e) Includes cold pressed neem oil and the clarified, hydrophobic extract of neem oil.
### Table 2: Example Pesticide Products by Active Ingredient Assessed

<table>
<thead>
<tr>
<th>Active Ingredient</th>
<th>Example Products (a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Azadirachtin</td>
<td>Azatrol® EC Insecticide, Azatin® XL Biological Insecticide</td>
</tr>
<tr>
<td><em>Bacillus amyloiquefaciens</em> strain D474</td>
<td>Double Nickel LC, Double Nickel 55, DefGuard, Triathlon® BA</td>
</tr>
<tr>
<td><em>Bacillus subtilis</em>, QST 713</td>
<td>Cease®, Serenade® Garden Disease Control</td>
</tr>
<tr>
<td><em>Bacillus thuringiensis</em> (b)</td>
<td>DiPel DF Biological Insecticide®, Gnatrol WDG Biological Larvacide®</td>
</tr>
<tr>
<td><em>Beauveria bassiana</em> (c)</td>
<td>BotaniGard ES®, Naturalis L®</td>
</tr>
<tr>
<td>Bicarbonate Salts</td>
<td>Kaligreen®, Agricure®, Bi-Carb Old Fashioned Fungicide®</td>
</tr>
<tr>
<td><em>Burkholderia</em> spp. strain A396</td>
<td>MBI-206 EP (Venerate™), MBI-206 TGAI</td>
</tr>
<tr>
<td>Capsaicin</td>
<td>Captiva®, Miller Hot Sauce® Animal Repellent</td>
</tr>
<tr>
<td>Cinnamon Oil</td>
<td>BacStop®, Dr. Earth Final Stop Vegetable Garden Insect Killer®</td>
</tr>
<tr>
<td>Clove Oil</td>
<td>All Natural 3-in-1 Garden Insect Spray®, PureAg Pest Control Concentrate®</td>
</tr>
<tr>
<td>Corn Oil</td>
<td>Pest Bully®, Bush Doctor Force of Nature Fungicide®</td>
</tr>
<tr>
<td>Cottonseed Oil</td>
<td>GC-3 Fungicide®, Bush Doctor Force of Nature Fungicide®, Bush Doctor Force of Nature Miticide®</td>
</tr>
<tr>
<td>Sodium Ferric EDTA, Iron Phosphate</td>
<td>Corry’s Slug &amp; Snail Killer®, Escar-go!®, Ferroxx®, Dr. T’s Slug &amp; Snail Killer®</td>
</tr>
<tr>
<td>Garlic and Garlic oil</td>
<td>Captiva®, Srills® Pest Bully, Aphid-Pruf®</td>
</tr>
<tr>
<td><em>Gliocladium virens</em></td>
<td>WRC-AP-1®, Soilgard®</td>
</tr>
<tr>
<td>Horticultural Oils (including Mineral Oil)</td>
<td>First Choice Narrow Range 415 Spray Oil®, Bonide All Seasons Horticultural Spray Oil®, Prescription Treatment Brand Ultra-Pure Oil®</td>
</tr>
<tr>
<td>Insecticidal Soap (Potassium Salts of Fatty Acids)</td>
<td>Garden Safe Brand Insecticidal Soap®, Neudorff Insecticidal Soap Concentrate®</td>
</tr>
<tr>
<td><em>Isaria fumosorosea</em></td>
<td>ANCORA™ Microbial Insecticide, PFR-97™ 20% WDG , Preferal Microbial Insecticide</td>
</tr>
<tr>
<td>Neem Oils</td>
<td>Debug Turbo®, Plasma Neem Oil Biological Insecticide®, Garden Safe Brand Fungicide 3®</td>
</tr>
<tr>
<td>Peppermint Oil</td>
<td>Essentria® IC3 Insecticide Concentrate, Brandt EcoTec®</td>
</tr>
<tr>
<td>Potassium Silicate</td>
<td>Sil-MATRIX®</td>
</tr>
<tr>
<td>Potassium Sorbate</td>
<td>Nuke ‘Em Insecticide &amp; Fungicide for All Plants Concentrate®</td>
</tr>
<tr>
<td>Predatory Nematodes</td>
<td>NemAttack®, NemaSeek®, Dr. Nemashi®®, Nemaglove Nematode Grub Busters®</td>
</tr>
<tr>
<td>Putrescent Whole Egg Solids</td>
<td>Havahart Deer and Rabbit Repellent®, Deer-Off® Concentrate II</td>
</tr>
<tr>
<td><em>Reynoutria sachalinensis</em> Extract</td>
<td>Regalia® Biofungicide,</td>
</tr>
<tr>
<td>Rosemary Oil</td>
<td>Ed Rosenthal’s Zero Tolerance Herbal Pesticide®, EcoTec®</td>
</tr>
<tr>
<td>Sesame Oil</td>
<td>Organocide 3-in-1 Garden Spray Ready to Spray®, Guard ‘N Spray®</td>
</tr>
<tr>
<td>Sodium Chloride</td>
<td>PureAg® Pest Control Food Grade</td>
</tr>
<tr>
<td>Sulfur</td>
<td>Micro Sulf®, Wilbur-Ellis Dusting Sulfur, Bionide® Sulfur Plant Fungicide</td>
</tr>
<tr>
<td><em>Trichoderma harzianum</em> (c)</td>
<td>T-22 G Biological Plant Protectant Granules®, T-22 WP Biological Fungicide®, Rootshield® WP Biological Fungicide</td>
</tr>
<tr>
<td>Soybean Oil, Castor Oil, Thyme Oil, and Geraniol</td>
<td>NEU1161 Vegetable Oil Insecticide®, Drexel Citrus-Soy®, Srills Drench Bully®, Shooter Insecticide®</td>
</tr>
</tbody>
</table>

(a) Reference to an example product is for information purposes only and does not constitute an endorsement or recommendation. Always read and follow label directions. If a label is unavailable, follow guidance in the product’s Safety Data Sheet (SDS) and/or in one or more of the following DPR documents: Pesticide Safety Information Series (PSIS); Compliance Assistance Booklets for Employers; and Pesticide Use Compliance Guide for Employers and Businesses. (DPR, 2015; DPR, 2013; DPR, 2010). Products containing active ingredient(s) not listed in Table 1 may still be eligible for use. Prior to the use of products containing active ingredients not listed in Table 2, consult your Agricultural Commissioner or DPR.

(b) Includes subspecies *israeldensis* and *kurstaki*.

(c) Includes only strains that are both registered for use on food crops intended for human consumption and residue tolerance exempt (40 CFR 180).
Receptors Evaluated

When pesticides are applied, they enter and distribute within the environment based on the method of application, other site-specific factors, and their unique physical and chemical properties. Once in the environment, there is the potential for exposure to the pesticide. Exposure is defined as the contact between an ingredient and the body of an individual human or ecological receptor. Exposure to pesticides can occur through various pathways, including inhalation, dermal (i.e., skin) contact, and consumption of contaminated vegetation, soil, and water or incidentally through hand-to-mouth contact. Following exposure to a pesticide, different health effects may occur depending on the toxicity of the pesticide, amount of exposure, and pathway of exposure.

This HHESRE evaluates potential impacts to those exposed individuals and organisms (referred to as “receptors”) who come into contact with pesticides applied under the Proposed Program during the cultivation process. The identity and scope of receptors considered in this evaluation are discussed in further detail in Section 4: Potential Exposure and Receptors.

2.3 Approach

Impacts were analyzed qualitatively based on a review of the pesticide active ingredients and the potential methods of application that may be used as part of the Proposed Program. The analysis focused on the potential of the Proposed Program to impact human or ecological receptors through the use of pesticides. A combination of the degree of toxicity and the likelihood and magnitude of exposure was considered for each ingredient to arrive at a conclusion of potential risk. The sources and methods through which toxicity data were gathered are presented in Section 3: Toxicological Data Summaries, while a discussion of the relevant receptors and their exposure is presented in Section 4: Potential Exposure and Receptors.

Each active ingredient evaluation was organized into individual “Ingredient Summaries” with the following format:

- **Introduction** – A discussion of the identity of the ingredient and its common uses
- **Example of Formulated Products** – Examples of formulated pesticide products containing the ingredient
- **Commonly Targeted Pests** – Pests commonly targeted by products containing the ingredient
- **Environmental Fate** – The known life cycle of the ingredient within the environment
- **Human Risk** – A summary of ingredient toxicity, likely exposure, and conclusions regarding likelihood of risk.
  - **Toxicity** – A summary of the available toxicological data for the ingredient
  - **Exposure** – A qualitative evaluation of the likelihood and magnitude of exposure to the ingredient given its manner of usage within Proposed Program
  - **Conclusion** – A characterization of the risk that takes into account both the toxicity of the ingredient and likely degree of exposure
• **Ecological Risk** – A brief summary of toxicity results for each group of ecological receptors along with a toxicity classification (e.g. very high toxic to practically nontoxic) assignment for each group when sufficient information was available. This included a summary of the available toxicological data for the ingredient for each of the following types of species, when available, with a toxicity classification determined, as appropriate:
  
  o **Birds**
  o **Mammals**
  o **Reptiles**
  o **Amphibians** – both terrestrial-phase and/or aquatic-phase
  o **Pollinators** – generally honeybees or bumblebees
  o **Soil-Dwelling Invertebrates** – used earthworms used a surrogate
  o **Fish** – both freshwater and marine/estuarine
  o **Aquatic Invertebrates** – both freshwater and marine/estuarine

  o **Conclusion** – Summarizes those groups of ecological receptors that had sufficient or insufficient information available. When toxicity information suggested that exposure could cause adverse effects to a particular group, control measures were suggested to reduce the exposure to a level that was unlikely to lead to adverse effects.

• **References**

Individual ingredient summaries are presented in Attachment A: Active Ingredient Summaries.
3 Toxicological Data Summaries

To characterize risk in this HHESRE, toxicity data were gathered for each individual pesticide active ingredient or group of ingredients as listed in Table 1. Toxicity data describe the relationship between an estimated dose or media concentration (e.g. in water, air or soil) and any resulting adverse health effect.

Toxicity is determined through numerous scientific studies that evaluate the different types of adverse effects that may occur following exposure to pesticide active ingredients and the doses or media concentrations with which those effects are elicited. For many active ingredients, adequate scientific data are not available to fully characterize all possible effects for all potential receptors. For instance, often scientific studies are available for certain classes of receptors (e.g., mammals, fish, birds, etc.), but not others. When characterizing toxicity to humans, often only animal data are available. However, conclusions drawn from the data that are available may be extrapolated with safety factors applied, where appropriate, to aid in characterizing a pesticide active ingredient’s toxicity to other species lacking sufficient data.

The specific sources and methods used to gather toxicity data are discussed below.

3.1 Human Toxicology Summary Data

For the evaluation of human toxicity, data were gathered for each pesticide active ingredient from various government sources including the USEPA, Office of Environmental Health Hazard Assessment (OEHHA), the Agency for Toxic Substances and Disease Registry (ATSDR), DPR, and the Hazardous Substances Data Bank (HSDB). Peer-reviewed scientific literature was used as necessary to supplement the aforementioned sources. Examples of typical sources include:

- USEPA Reregistration Eligibility Decision (RED) documents
- USEPA Human Health Assessment Scoping Documents
- USEPA Biopesticides Registration Action Document (BRAD)
- DPR Risk Characterization Documents (RCD)
- OEHHA Toxicity Criteria Database
- ATSDR Toxicological Profile
- HSDB Toxnet Database
- Safety Data Sheet (SDS)
- European Chemicals Agency (ECHA)
- Health Canada
- California Division of Occupational Safety and Health (Cal/OSHA)
- National Institute for Occupational Safety and Health (NIOSH)

The available toxicity data were summarized for each pesticide active ingredient evaluated and are presented in the individual active ingredient summaries presented in Attachment A: Active
Ingredient Summaries. Toxicity data summarized includes acute, subchronic, and chronic NOAELs and other relevant toxicity information such as whether the ingredient possesses any known mutagenic, carcinogenic, or endocrine disrupting potential. Toxicity data were gathered for oral, dermal, and inhalation routes of exposure.

3.2 Ecotoxicology Summary Data

USEPA pesticide registration documents are excellent sources of ecotoxicity test results. However, these summarize only the tests required for registration. USEPA does not require toxicity testing for taxonomic groups such as amphibians and reptiles. Therefore, ecotoxicity result for these groups do not appear in USEPA registration documents. Literature searches of published journal articles were necessary to find data for these groups, when it existed.

Also, the information in a registration document might be many years old, and newer studies that filled in gaps in the information presented in the registration documents needed to be gleaned from other sources.

- Peer Reviewed Journal Articles
- USEPA’s ECOTOXicology knowledgebase (ECOTOX)
- USEPA Biopesticides Registration Action Document (BRAD)
- USEPA Reregistration Eligibility Decision (RED) documents
- USEPA Office of Pesticide Programs Pesticide Ecotoxicity Database
- European Chemicals Agency (ECHA)
4 Potential Exposure and Receptors

During and after the application of pesticides, the potential for exposure to human and ecological receptors exists. The identity of those receptors and the scope of the analysis are discussed below.

In a majority of cases, there is a lack of detail presented on product labels regarding pesticide application rate and area, frequency of application, etc. Based on anecdotal evidence gathered through interviews during the survey previously mentioned, the degree of cultivator knowledge and training on appropriate application techniques and personal protective equipment (PPE) is less than what is commonly known and understood by applicators in traditional production agriculture. Because of these factors, the exact manner by which pesticides will be used is not well understood and as a result, the assessment of exposure to human and ecological receptors is, at best, an approximation and in many cases is largely unknown.

4.1 Human Receptors

The human receptor considered in this analysis is the cultivator. A cultivator is defined as a person that conducts the planting, growing, harvesting, drying, curing, grading, or trimming of commercial cannabis. For purposes of this analysis, the cultivator is also assumed to be involved in the process of preparing pesticides (mixing and loading) and applying them. Cultivators may be exposed to pesticides during the preparation or application of pesticides. Additionally, cultivators may be exposed during post-treatment cannabis cultivation activities, such as clipping, trimming, or handling treated vegetation. Exposure to other human receptors, including end users or consumers, was not evaluated in this analysis.

When mixing, loading, or applying a pesticide, dermal contact with the pesticide or inhalation of volatilized or aerosolized pesticide may occur. Although cultivators are not assumed to intentionally ingest pesticide solutions, hand-to-mouth ingestion of applied pesticide may occur if hands are not properly washed and proper care is not taken to avoid the unintentional transfer of residues on hands to the mouth. Cultivators are assumed to wear appropriate personal protective equipment (PPE) as required by the product label, if available.

During post-treatment cannabis cultivation activities, cultivators may be dermally exposed to pesticide residues on treated plants while handling them. The inhalation of volatilized or aerosolized pesticide may also occur, depending on the type of pesticide being used. Hand-to-mouth ingestion of pesticides may also occur during cultivation activities with treated crop.

4.2 Ecological Receptors

Ecological receptors include all organisms, except humans, that could be exposed during or following a pesticide application. Ecological receptors could either be present at the cultivation site or in areas where pesticides could become deposited via drift or off-site movement. It is impractical to consider each species that might be exposed, so ecological receptors were grouped taxonomically or functionally.
Terrestrial receptors included the taxonomic groups of terrestrial-phase amphibians, birds, mammals, and reptiles and the functional groups of pollinators and soil-dwelling invertebrates. Aquatic species included aquatic-phase amphibians, freshwater and marine/estuarine fish, and the broad categories of freshwater and marine/estuarine aquatic invertebrates. Frequently, ecotoxicity data were lacking for various groups of ecological receptors requiring that the available data be evaluated for extrapolation to those groups lacking data. Plants were not evaluated since no herbicides were evaluated, and insecticides and fungicides typically are not harmful to plants.

4.3 Conceptual Site Models

A conceptual site model (CSM) is a graphical presentation of expected relationships between pesticide application receptor exposure through inhalation, dermal contact and ingestion. It includes a description of the complete exposure pathways and outlines the primary release media, impacted media, and potential routes of exposure for receptors. A complete exposure pathway exists when a pesticide can be traced, or expected to travel, from the point of application to an environmental compartment (e.g., plant, soil, air, etc.) and eventually to a receptor. An exposure pathway is not complete when it is unlikely for a receptor to be exposed to a pesticide through a specific exposure pathway. The CSM identifies the multiple pathways through which receptors may be exposed to a pesticide as part of the Proposed Program.

The starting point of the CSM is the application equipment, which introduces the pesticide into the environment. The next exposure step following an application depends on the environmental media that the pesticide reaches after application. Pesticides may be found in the soil, air, water, vegetation, and receptors present at the time of the application. Plants present within the treated area may be exposed to pesticides via direct deposition and uptake from the soil.

Following an application, the potential exists for off-site movement via aerial drift (hereinafter referred to as “drift”) such that pesticides may be present in surface water and adjacent untreated areas. Note that, for applications within greenhouses and other indoor structures, off-site pesticide drift may be negligible as applications are often, but not always, confined inside an enclosed structure.

Once the pesticide is present in an environmental media, three routes of exposure exist for a receptor to become exposed: ingestion, inhalation, and dermal. The Human and Ecological CSMs for the Proposed Program are presented in Figure 2 and Figure 3 below, respectively. The Ecological CSM pertains to applications at outdoor cultivation sites. Any exposure to ecological receptors following applications in greenhouses will be greatly reduced, but follow similar exposure pathways, since some greenhouses can have openings to the outdoors. No exposure to ecological receptors is assumed following applications at indoor cultivation sites or in greenhouses that are fully enclosed.
**General Notes:**
CSM is for pesticide applications made as part of the CalCannabis Cultivation Licensing Program.
X - Complete Exposure Pathway
O - Incomplete, Inconsequential, or De Minimis Exposure Pathway

**Specific Notes:**
(a) Cultivators include any individuals involved in the cannabis cultivation process. Cultivators may be exposed when mixing, loading, or applying pesticides or during post-treatment cannabis cultivation activities, such as clipping and handling treated vegetation.

(b) Cultivators are assumed to wear appropriate personal protective equipment (PPE) as required by the product label and safety data sheet.

(c) Incidental hand-to-mouth ingestion of applied pesticide is assumed to occur during cultivation activities with treated crop.
Notes:
- Complete Exposure Pathway
- Although complete, this pathway is not evaluated due to lack of toxicological or exposure data.
- Incomplete, Inconsequential, or De Minimus Exposure Pathway
(1) Includes sediment-dwelling invertebrates.

Abbreviations:
- Soil Invert: Soil Invertebrate
- Terr. Insect: Terrestrial Insect
- Aq. Invert: Aquatic Invertebrate
5 Conclusions

This HHESRE was conducted to provide a screening level evaluation the potential risk to human and ecological receptors from the use of pesticides under the Proposed Program. Toxicity data were gathered using procedures and methodologies commonly used by government agencies such as USEPA and DPR, as well as the wider risk assessment community. To the extent feasible, exposure was assessed for relevant receptors. When possible, risk was qualitatively evaluated through consideration of both the toxicity of and potential exposure to pesticides.

5.1 Human Risk

None of the pesticide active ingredients evaluated are expected to pose an unacceptable human health risk. Although cultivator exposure is anticipated during application and post-application cultivation activities, the available toxicity and expected use activity indicates that the active ingredients evaluated do not pose a significant acute, subchronic, or chronic toxicity through the oral, dermal, or inhalation exposure pathways. The majority of ingredients evaluated have histories of safe use, with several acting as common food items or additives, and all are food tolerance exempt through 40 CFR 180 due in part to their substantially low toxicity.

Cal/OSHA has established a list of Permissible Exposure Limits (PELs) for humans for a variety of substances which sets limits on the amount or concentration of a substance permitted in the air (Cal/OSHA, 2017). These limits are enforceable in California and provide information on the acceptable level of chemicals in the workplace. Similarly, NIOSH establishes Regulatory Exposure Limits (RELs), which are intended to limit exposure to hazardous substances in workplace air to protect worker health (NIOSH, 2017). A list of applicable PELs and RELs is presented in Attachment B: Permissible and Recommended Exposure Limits. When products are used as anticipated, no PELs or RELs are expected to be exceeded.

None of the ingredients were identified to have harmful genotoxic, mutagenic, neurotoxic, reproductive, or developmental effects. Additionally, none of the ingredients evaluated are listed in Proposition 65 or are considered to have carcinogenic potential. Although exposure to certain active ingredients may cause localized skin, eye, throat or lung irritation, the available data suggests that these effects are unlikely to be serious, permanent, or prolonged.

In light of the general lack of directions given on product labels and the potential for localized skin, eye, throat or lung irritation, it is recommended that cultivators receive training consistent with that provided to workers in conventional production agriculture. This training includes, but is not limited to, reading and following instructions given in:

- The product’s Safety Data Sheet (SDS)
- The DPR Pesticide Safety Information Series (PSIS);
- The DPR Compliance Assistance Booklets for Employers; and
- The DPR Pesticide Use Compliance Guide for Employers and Businesses
Toxicity, expected exposure, and a discussion of potential risk for individual pesticide active ingredients is presented in Attachment A: Active Ingredient Summaries.

5.2 Ecological Risk

Ecotoxicity data was limited for nearly all pesticides for all ecological receptor groups. For some pesticides, data were completely lacking. Where possible, ecotoxicity information from one group was used to discuss the potential for adverse effects in other groups. For example, information for birds and mammals were often used to consider whether there might be adverse effects for terrestrial-phase amphibians or reptiles. The conclusions below apply primarily to pesticides applied at outdoor cultivation sites, and to a lesser extent, those greenhouses where access from outside by wildlife is not restricted. Indoor cultivation sites are not considered here since access to the cultivation areas will be highly restricted.

**Birds**

No pesticides evaluated under the Proposed Program demonstrated a high potential for adverse effects to birds. However, many pesticides lacked sufficient information to adequately assess toxicity to birds. Considering that the level of exposure at which adverse effects might occur for birds is unknown, the control measures stated below should be followed to limit the potential for harmful effects.

**Mammals (see Toxicity section under Human Risk for additional information)**

None of the assessed pesticides showed high potential for adverse effects at relevant exposure concentrations. However, many pesticides lacked sufficient information to adequately assess toxicity to mammals. Considering that the level of exposure at which adverse effects might occur for mammals for some pesticides is unknown, the control measures stated below should be followed to limit the potential for harmful effects.

**Reptiles**

Few pesticides had sufficient information to assess toxicity to reptiles. No adverse effects were identified for the few pesticides with toxicity data for reptiles. However, since most pesticides lacked sufficient information to adequately assess toxicity to reptiles, the level of exposure at which adverse effects might occur for reptiles is unknown. Therefore, the control measures stated below should be followed to limit the potential for harmful effects.

**Amphibians**

No adverse effects were identified for terrestrial-phase amphibians, but practically no ecotoxicity data are available for terrestrial-phase amphibians. Azadirachtin was determined to be highly toxic to aquatic-phase amphibians. Since data are lacking for most pesticides in relation to aquatic-phase amphibians, it is possible other pesticides could also produce adverse effects in aquatic-phase amphibians. Therefore, the control measures stated below should be followed to limit the potential for harmful effects.
Pollinators

Several of the pesticides evaluated under the Proposed Program demonstrated a moderate to high potential for adverse effects to pollinators. Azadirachtin, *Bacillus subtilis* QST 713, *B. thuringiensis israelensis*, *Beauveria bassiana*, *Isaria fumosorosea*, peppermint oil, and rosemary oil all either demonstrated a moderate potential to cause adverse effects or the information is not sufficient to determine if there was a low potential for adverse effects. Other pesticides lacked any data regarding toxicity for pollinators. The control measures stated below should be followed to limit the potential for harmful effects.

Soil-Dwelling Invertebrates

Ecotoxicity data for earthworms or other soil-dwelling invertebrates was almost entirely lacking for pesticides evaluated under the Proposed Program. Exposure to soil-dwelling invertebrates cannot be completely avoided following pesticide applications. However, the control measures stated below will reduce excess exposures and limit the potential for harmful effects.

Fish

Ecotoxicity data for fish were lacking for many pesticides evaluated, but a few were classified as moderately to highly toxic. Geraniol, capsaicin, and potassium salts of fatty acids were classified as moderately toxic to fish. Azadirachtin was considered highly toxic to fish. *B. bassiana* was shown to possibly be harmful to fish embryos. The fish toxicity data for *Reynoutria sachalinensis* was of questionable quality, so the classification of slightly toxic might not be appropriate. Since these pesticides show a high to moderate potential to cause adverse effects, and because other pesticides lack ecotoxicity data for fish, the control measures stated below should be followed to limit the potential for harmful effects.

Aquatic Invertebrates

Ecotoxicity data were not available for all pesticides evaluated. Some, however, were classified as moderately to highly toxic to aquatic invertebrates. Azadirachtin (and possibly, by association, cold pressed neem oil) and potassium salts of fatty acids were classified as highly toxic to at least some species of aquatic invertebrates. *B. thuringiensis israelensis* and capsaicin were moderately toxic and *B. thuringiensis kurstaki* was shown to have temporary impacts. The aquatic invertebrate toxicity data for *Reynoutria sachalinensis* was of questionable quality, so the classification of slightly toxic might not be appropriate. The control measures stated below should be followed to limit the potential for harmful effects.

Control Measures

The following control measures should be followed to limit the potential for harmful effects to ecological receptors.

General

- Always read and follow pesticide label directions
Ecological Receptors

Terrestrial Species
- Store chemicals in a secure building or shed to prevent access by wildlife
- Contain any leaks and immediately clean up any spills
- Apply the minimum amount of material necessary to control the pest
- Prevent off-site drift

Pollinators
- Do not spray pesticides when pollinators are present
- Do not allow spray to drift to flowering plants attractive to pollinators

Aquatic Species
- Do not spray directly to surface water or allow pesticide product to drift to surface water. Spray only when wind is blowing away from surface water bodies
- Do not apply pesticides in circumstances where they may reach surface or groundwater. Examples include, but are not limited to, shallow groundwater overlain with pervious soils, and proximity to streams, rivers, creeks, lakes or ponds where runoff and/or drift may reach these waterbodies

If the aforementioned control measures are undertaken, the exposure to ecological receptors is not expected to result in substantial adverse effects.
6 References

NOTE: Links to webpages and PDFs were active as of the listed access date. Access to those web resources and information presented therein are subject to change.


Attachment A: Active Ingredient Summaries

Azadirachtin
Bacillus amyloliquefaciens, strain D747
Bacillus subtilis, QST 713
Bacillus thuringiensis
Beauveria bassiana
Burkholderia spp. Strain A396
Capsaicin
Cinnamon Oil
Citric Acid
Clove Oil
Corn Oil
Cottonseed Oil
Garlic and Garlic Oil
Gliocladium virens
Horticultural Oils (Petroleum Oil)
Insecticidal Soap (Potassium Salts of Fatty Acids)
Isaria fumosorosea
Neem Oils
Peppermint Oil
Potassium Bicarbonate and Sodium Bicarbonate
Potassium Silicate
Potassium Sorbate
Predatory Nematodes
Putrescent Whole Egg Solids
Reynoutria sachalinensis Extract
Rosemary Oil
Sesame Oil
Sodium Chloride
Sodium Ferric EDTA and Iron Phosphate
Soybean Oil, Castor Oil, Thyme Oil, and Geraniol
Sulfur
Trichoderma harzianum
Environmental Fate & Toxicology Summary
Azadirachtin
(CAS # 11141-17-6)

Introduction

Azadirachtin is a multicomponent mixture, naturally occurring pesticide composed of Azadirachtin A and Azadirachtin B, pressed directly from seeds of the Neem tree, *Azadirachta indica* (USEPA, 2001; 2008). Azadirachtin is a terpenoid that makes up 300 to 2,000 ppm in cold pressed neem oil (Nicoletti, 2012; USEPA, 2012a). It is federally registered as an active ingredient used to control insects on indoor and outdoor food and non-food crops by disrupting the insect feeding, molting, mating, and egg-laying processes (USEPA, 2001; 2008; 2012a). Because azadirachtin occurs naturally in the environment, it was classified as a biopesticide in 1985 (USEPA, 2008). As of 2016, there were 28 product formulations registered with the California Department of Pesticide Regulations (DPR) that include azadirachtin as the active ingredient (DPR, 2017a).

Example of Formulated Products*

Azatrol® EC Insecticide, Azatin® XL Biological Insecticide

*Reference to any specific product is for informational purposes only and does not constitute an endorsement or recommendation. Always read and follow label directions. If a label is unavailable, follow guidance in the product’s Safety Data Sheet (SDS) and/or in one or more of the following DPR documents: Pesticide Safety Information Series (PSIS); Compliance Assistance Booklets for Employers; and Pesticide Use Compliance Guide for Employers and Businesses.

Commonly Targeted Pest:

Aphids, beetles, caterpillars, leafhoppers, leaf miners, psyllids, sawflies, scales, thrips, and whiteflies (USEPA, 2008; DPR, 2017b)

Environmental Fate

The environmental fate of Azadirachtin A was evaluated in place of azadirachtin due to a lack of data on the multicomponent mixture. Azadirachtin A was considered representative of azadirachtin’s behavior in the environment. Azadirachtin A is found naturally in the environment and has a half-life between 48 minutes and 4 days in sunlight. It rapidly biodegrades in water, soil, and on foliar surfaces (USEPA, 2012a). Azadirachtin A has a low vapor pressure (<10\(^{-15}\) Pa), indicating it is unlikely to partition into air (USEPA, 2008).
Human Risk

Toxicity

Acute toxicity endpoints can be categorized from lowest toxicity to highest toxicity as shown in the table below. Throughout the discussion of human toxicity, these classifications will be referenced.

### Acute Toxicity Categories for Human

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Acute Oral LD$_{50}^1$</th>
<th>Acute Inhalation LC$_{50}^2$</th>
<th>Acute Dermal LD$_{50}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category I (highest toxicity)</td>
<td>≤ 50 mg/kg</td>
<td>≤ 0.2 mg/L</td>
<td>≤ 200 mg/kg</td>
</tr>
<tr>
<td>Category II (moderately toxic)</td>
<td>&gt;50 - 500 mg/kg</td>
<td>&gt;0.2 - 2 mg/L</td>
<td>&gt;200 - 2000 mg/kg</td>
</tr>
<tr>
<td>Category III (slightly toxic)</td>
<td>&gt;500 - 5,000 mg/kg</td>
<td>&gt;2 - 20 mg/L</td>
<td>&gt;2000 - 20,000 mg/kg</td>
</tr>
<tr>
<td>Category IV (lowest toxicity)</td>
<td>&gt;5000 mg/kg</td>
<td>&gt;20 mg/L</td>
<td>&gt;20,000 mg/kg</td>
</tr>
</tbody>
</table>

Reference: 40 CFR 156.62
1. LD$_{50}$ is the median lethal dose at which 50% of the test animals die from the treatment
2. LC$_{50}$ is the median lethal concentration at which 50% of the test animals die from the treatment

Azadirachtin is considered of low acute toxicity in occupational settings due to its history of safe use in medications, personal care products, and pesticides (ECHA, 2014a; USEPA, 2008). The acute, oral LD$_{50}$ for azadirachtin has been reported to be greater than 5,000 mg/kg body weight in rats, classifying it as a Toxicity Category IV (lowest toxicity) chemical through this route (USEPA, 2008). A subchronic, oral No Observed Adverse Effect Level (NOAEL) of 32 mg/kg-d was identified based on a 90 day feeding study in which rats experienced liver and thyroid dysfunction at greater doses (ECHA, 2014a). The acute inhalation LC$_{50}$ was estimated to be greater than 0.72 mg/L in rats, classifying azadirachtin in Toxicity Category III (slightly toxic) via inhalation. Azadirachtin is classified as a Toxicity Category III (slightly toxic) chemical through the acute, dermal pathway based on an LD$_{50}$ estimated to be greater than 2,000 mg/kg in rats. No other toxicological endpoints were identified for the pathways and durations considered. Azadirachtin was found to be a slight dermal sensitizer and irritant in guinea pigs, although the symptoms cleared within two days of exposure. It is also a slight eye irritant (USEPA, 2008). Azadirachtin is expected to have low mammalian toxicity for all considered routes of exposure and durations (USEPA, 2008). Additional acute and subchronic data was waived for registration of azadirachtin as a pesticide due to the low mammalian toxicity (USEPA, 2009).

As of 2008, there were 3 minor human health incidents in the United States associated with azadirachtin when used as a pesticide (USEPA, 2008).
**Genotoxicity:** No information was available regarding the genotoxic potential of azadirachtin.

**Mutagenicity:** Cold pressed neem oil, containing azadirachtin, tested negative for mutagenicity in the Ames Assay (USEPA, 2012a). No additional information was available regarding the mutagenic potential of azadirachtin.

**Neurotoxicity:** No evidence was located suggesting that azadirachtin used as pesticides has a neurotoxic mode of action or neurotoxic potential in mammals.

**Reproductive/Developmental Toxicity:** Azadirachtin acts as an antifeedant and interferes with the life cycle of insects. No reproductive or developmental adverse effects were reported in a three-generation rat study with dietary administration of 10 percent neem oil (containing azadirachtin) (USEPA, 2012a). Azadirachtin is not listed as a developmental toxicant on the Proposition 65 list (OEHHA, 2016). No additional information was available regarding the reproductive or developmental toxicity of azadirachtin.

**Dermal Absorption Factor (DAF):** No DAF was available for azadirachtin.

**Carcinogenicity:** Azadirachtin is not listed as a suspected carcinogen by the World Health Organization nor is listed as a carcinogen on the Proposition 65 list (OEHHA, 2016; WHO, 2016). No additional information was available regarding the carcinogenic potential of azadirachtin (USEPA, 2001; 2009).

**Skin, Eye, or Lung Irritation:** Azadirachtin is slightly irritating to the skin and eyes (USEPA, 2008). It can also cause skin sensitization in sensitive individuals (ECHA, 2014b).

**Exposure**

Exposure pathways considered were ingestion, inhalation, and dermal absorption. Contact with a pesticide may occur during pesticide mixing, loading or application or when handling treated cannabis crop. Although cultivators are not anticipated to intentionally ingest pesticide residues, incidental hand-to-mouth ingestion of pesticide residues may occur if hands are not properly washed and proper care is not taken to avoid unintentional transfer of pesticide residues on hands to mouth. Aerosolized pesticide from the use of application equipment, such as backpack sprayers, may be present and as a result, there is a potential for inhalation exposure during application. Because of azadirachtin’s low vapor pressure (1.8 x 10^-17 mm Hg), it is not expected to volatilize from plants or soil such that post-application inhalation is of concern. Label instructions suggest applicators use long-sleeve clothing, pesticide-resistant gloves, close-toed shoes with socks, and safety goggles or a face shield (USEPA, 2008). Products containing azadirachtin require a 4-hour Restricted-Entry Interval (REI) and many product formulations have a Restricted Time Interval (RTI) of more than 3 days between applications, further reducing exposure (USEPA, 2008). Azadirachtin degrades quickly in the environment and is not expected to persist (USEPA, 2012a).
Conclusion

Based on available toxicity data, use of azadirachtin as a pesticide is not anticipated to have adverse effects on human health for any exposure pathway. Although there is potential for some exposure to cultivators, this contact is significantly reduced when personal protection equipment, REIs, and RTIs are followed in accordance with label directions. Due to the low mammalian toxicity, history of safe use, and limited exposure, azadirachtin is not anticipated to result in unacceptable risk to cultivators when applied as a pesticide in cannabis cultivation.

Cultivators applying pesticides should always read and follow the label, SDS and relevant DPR documents including the DPR Pesticide Safety Information Series (PSIS) (DPR, 2015), DPR Compliance Assistant Booklet for Employers (DPR, 2010a) and the DPR Pesticide Use Compliance Guide for Employers and Businesses (DPR, 2010b).

Ecological Risk

Acute ecotoxicity endpoints can be categorized from practically nontoxic to very highly toxic (see Ecotoxicity Classification Table below). Throughout the discussion of ecotoxicity results, these toxicity classes will be used.

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Avian: Acute Oral LD_{50}^1 (mg/kg)</th>
<th>Aquatic Organisms: Acute LC_{50}^2 (ppm or mg/L)</th>
<th>Wild Mammals: Acute Oral LD_{50} (mg/kg)</th>
<th>Non-Target Insects: Acute LD_{50} (µg/bee)</th>
</tr>
</thead>
<tbody>
<tr>
<td>very highly toxic</td>
<td>&lt;10</td>
<td>&lt;0.1</td>
<td>&lt;10</td>
<td>&lt;2</td>
</tr>
<tr>
<td>highly toxic</td>
<td>10-50</td>
<td>0.1 - 1</td>
<td>10 - 50</td>
<td>2 - 11</td>
</tr>
<tr>
<td>moderately toxic</td>
<td>51-500</td>
<td>&gt;1 - 10</td>
<td>51 - 500</td>
<td>2 - 11</td>
</tr>
<tr>
<td>slightly toxic</td>
<td>501-2000</td>
<td>&gt;10 - 100</td>
<td>501 - 2000</td>
<td>2 - 11</td>
</tr>
<tr>
<td>practically non toxic</td>
<td>&gt;2000</td>
<td>&gt;100</td>
<td>&gt;2000</td>
<td>&gt;11</td>
</tr>
</tbody>
</table>

Taken from USEPA, 2017

1 LD_{50} is the median lethal dose at which 50% of the test animals die from the treatment
2 LC_{50} is the median lethal concentration at which 50% of the test animals die from the treatment

Birds

Azadirachtin is classified as practically nontoxic (see Ecotoxicity Classification Table above) to birds based on limited toxicity data. A single study for acute oral toxicity in adult bobwhite quail (*Colinus virginianus*) reported an oral LD_{50} of greater than 2,250 mg/kg with the No Effect Level (NOEL) identified as 29.2 mg/kg (USEPA, 1990a). A single dietary study with bobwhite quail chicks reported a dietary LC_{50} of greater than 5,620 ppm in diet with the No Effect Concentration (NOEC) reported as 316 ppm (USEPA, 1990b).

Mammals (see Toxicity section under Human Risk for additional information)

Azadirachtin is classified as practically nontoxic (see Ecotoxicity Classification Table above) to mammals with acute oral LD_{50}s reported to be greater than 5,000 mg/kg (USEPA, 2008; ECHA,
A study feeding rats for 90 days identified 32 mg/kg-d as the NOAEL. When rats were fed diets containing azadirachtin for 14 days or for 28 days, the lowest daily doses of 2,000 mg/kg-d and 300 mg/kg-d, respectively, indicated adverse effects. These dietary studies suggest that although a single dose of azadirachtin is unlikely to be harmful, longer exposures can produce adverse effects such as reduced body weights and liver and thyroid toxicity (ECHA, 2014a).

**Reptiles**

No relevant toxicity data were available for azadirachtin for reptiles.

**Amphibians**

Oak toad (*Bufo quercicus*) tadpoles are more susceptible to effects of azadirachtin at earlier stages of development. A water concentration of 0.3 ppm did not cause increased mortality, but concentrations of 0.4 and 0.5 ppm increased levels of mortality after 96 hours of exposure to even some of the older tadpoles (e.g., at limb bud emergence). Exposure of unfertilized eggs to 0.4 and 0.5 ppm caused decreased fertilization rates (Punzo, 1997).

No relevant toxicity data were available for azadirachtin for terrestrial-phase amphibians.

**Pollinators**

Brazilian stingless bee (*Melipona quadrifasciata*) larvae were exposed to Azamax during development. Exposure to azadirachtin as Azamax at concentrations up to 840 ng azadirachtin/larvae did not affect development time, but significantly reduced pupal body mass and caused deformed pupae. The NOAEL for mortality and pupal body mass is 42 ng azadirachtin/bee (Barbosa et al., 2015a).

Bumblebees (*Bombus terrestris*) exposed to treated sugar water containing 3.2 ppm azadirachtin caused little worker mortality, but exposure to 320 ppm caused complete mortality by 2 weeks. No drone offspring were produced when colonies were fed treated sugar water containing 6.4 ppm and above. The No Observed Adverse Effect Concentration (NOAEC) based on worker survival was 3.2 ppm in sugar water with the Lowest Observed Adverse Effect Concentration (LOAEC) established at 6.4 ppm (Barbosa et al., 2015b).

When colonies of honey bees (*Apis mellifera*) were fed 500 mL of sugar solution containing 1 ppm azadirachtin, there was no increase in removal of marked eggs, no effect on brood replacement, no effect on sperm counts in drones, no effect on queen viability, and no apparent colony effects prior to winter. However, 4 of 5 colonies failed to survive the winter (Thompson et al., 2005). Higher concentrations of azadirachtin in sugar solution (10 ppm or greater) repelled the bees. However, bees did not show a strong repellency to canola that had been sprayed with azadirachtin (Naumann et al., 1994).
Soil-Dwelling Invertebrates

No relevant toxicity data were available for azadirachtin for earthworms or other soil-dwelling invertebrates.

Fish

Based on an acute toxicity study with rainbow trout (Oncorhynchus mykiss) exposed to an unnamed formulation containing 10 percent azadirachtin, the LC50 was 0.48 ppm with a NOAEC of 0.16 ppm (USEPA, 1990c). Therefore, azadirachtin is classified as very highly toxic to fish (see Ecotoxicity Classification Table above). In another study with rainbow trout using a neem extract containing 23 percent azadirachtin and 77 percent other neem constituents the LC50 was 3 ppm (Wan et al., 1996) suggesting a classification of moderately toxic for fish.

The sensitivity of other species fish to azadirachtin varies considerably. Freshwater loach (Lepidocephalichthys guntea) exposed to Neem Gold exhibited a NOEC for mortality of 0.0375 ppm and a LOEC of 0.0525 ppm (Mondal et al., 2007). Carp (Cyprinus carpio) exhibited some effects on blood chemistry when exposed to up to 0.06 ppm azadirachtin, but the changes were not dramatic and would not be considered ecologically relevant (Murussi et al., 2016). Pacific Coho salmon (Oncorhynchus kisutch) exposed to a neem extract product containing 49 percent azadirachtin had an LC50 of greater than 4 ppm; but had an LC50 of 13 ppm when exposed to a neem extract containing 23 percent azadirachtin and 77 percent other neem constituents (Wan et al., 1996). Chinook salmon (Oncorhynchus tshawytscha) exposed to a neem extract product containing 23 percent azadirachtin and 77 percent other neem constituents had a LC50 of 4 ppm (Wan et al., 1996). Goldfish (Carassius auratus) exposed to up to 20 ppm azadirachtin experienced no mortality, but demonstrated a significant increase in the level of stress enzyme at the higher concentrations of azadirachtin (Kumar et al., 2013). Freshwater catfish (Heteropneustes fossilis) exposed to Ozoneem Aza containing 23.78 percent azadirachtin A and 3.59 percent azadirachtin B had a LC50 of 52.36 ppm (Kumar et al., 2012)

Aquatic Invertebrates

Based on standard test species, azadirachtin is classified as highly toxic to moderately toxic to aquatic invertebrates. Using the formulated products, Neemix and Bioneem, the LC50 in Daphnia pulex for azadirachtin was 0.4 ppm azadirachtin (Goktepe and Plhak, 2002; Goktepe and Plhak, 2004). The LC50 for Daphnia pulex with Azatin was 0.57 ppm azadirachtin and 0.68 ppm azadirachtin for Neemix 4.5 (Stark, 2001). The LC50 was greater than 4.6 ppm for Daphnia magna for an unnamed product containing 10 percent azadirachtin with a NOAEC of 4.6 ppm (USEPA, 1990d), but was greater than 9.3 ppm for an unnamed product containing 5 percent azadirachtin (USEPA, 1992). Using the formulated products, Neemix and Bioneem, the LC50 in crayfish (Procambarus clarkii) for azadirachtin was greater than 1 ppm azadirachtin (Goktepe and Plhak, 2004).

A 10-day exposure to Neemix produced NOEC and LOEC values for population growth in Daphnia pulex of 0.045 and 0.15 ppm, respectively (Stark, 2001), but microcosms with 0.03 or
0.09 ppm azadirachtin showed no effect on the survival of water fleas (*Daphnia* sp.) or midge (*Chironomus riparius*) larvae (Scott and Kaushik, 2000).

The use of azadirachtin products for the control of forestry pests led to considerable work to investigate the effects on stream invertebrates, particularly aquatic insects. In one study, aquatic insects were exposed to a formulation containing neem-seed kernel extract comprised of 3 percent azadirachtin A and 32 percent other neem-seed kernel extracted compounds that may also be active. The LC$_{50}$ for the mayfly nymph (*Drunella grandis*) was 0.2 ppm azadirachtin A, and for a second mayfly nymph (*D. doddsi*), the LC$_{50}$ was 0.05 ppm azadirachtin A. For stonefly nymphs (*Skwala parallela*) the LC$_{50}$ was 0.1 ppm azadirachtin A. Caddisfly larvae (*Brachycentrus americanus*) had an LC$_{50}$ of 0.08 ppm azadirachtin A, and for a second caddisfly larvae (*B. occidentalis*), the LC$_{50}$ was 0.2 ppm azadirachtin A. The LC$_{50}$ for the isopod (*Caecidotea intermedia*) was 0.3 ppm azadirachtin A (Dunkel and Richards, 1998).

Very short-term exposures (e.g., single 1-hr exposure) to 0.35 ppm azadirachtin followed by 21-day observation periods, indicated brief exposures to concentrations as high as 10 times the maximum estimated environmental concentration would not cause lethal effects for many species. Such species included: stoneflies (*Acroneuria abnormis* and *Pteronarcys dorsata*), amphipods (*Gammarus pseudolimnaeus*), caddisflies (*Hydatophylax argus*, *Hydropsyche bifida/recurvate*, and *Oligostomis pardalis*), and mayfly (*Rhithrogena* sp.). The LC$_{50}$ for the mayfly (*Isonychia bicolor/rufa*) was 1.12 ppm (Kreutzweiser, 1997). Longer exposures of 28 days at 0.035 ppm azadirachtin, estimated to be a likely environmental concentration following applications, did not cause increased mortality or antifeedant effects in stoneflies (*P. dorsata*), caddisflies (*H. argus*), and crane flies (*Tipula* sp.) (Kreutzweiser, 1997). However, zooplankton exposed to 0.035 ppm azadirachtin (Kreutzweiser et al., 2002) or as low as 0.01 ppm azadirachtin (Kreutzweiser et al., 2004a, b) in pond mesocosms did experience adverse effects on community structure.

Similar species of aquatic insects demonstrate differing sensitivities. In a simulated stream exposure for 5 hours to 0.84 ppm azadirachtin with a 5-day observation period, stoneflies (*Isogenoides* sp. and *P. dorsata*) and the caddisflies (*H. bifida/recurvate* and *O. pardalis*) experienced increased mortality, but the stonefly (*Acroneuria* sp.), caddisfly (*Pycnopsyche guttifer*) and the dragonfly (*Ophiogamphus* sp.) did not experience any increase in mortality. Under the same conditions with exposure to 0.28 ppm azadirachtin, mayfly (*I. bicolor/rufa*) experienced increased mortality, but the caddisfly (*H. bifida/recurvata*) did not experience increased mortality at that concentration (Kreutzweiser et al., 1999).

Goktepe et al., (2004) determined that azadirachtin-containing pesticides may pose minimal risk to *Daphnia pulex* and species of similar sensitivity in water bodies receiving neem-based insecticides in runoff originating from lands receiving pest management applications. Toxicity of neem-based pesticides to aquatic species tested was in the following decreasing order: water fleas (*D. pulex*)>mosquito larvae (*Culex quinquefasciatus*)>blue crab megalopes (*Callinectes sapidus*)>juvenile white shrimps (*Penaeus setiferus*)>juvenile grass shrimps (*Palaemonetes pugio*)>juvenile crayfish (*P. clarkii*). In the acute toxicity test, the toxicity of Bioneem™ was more pronounced than Neemix™ to all the species studied.
Conclusions

The ecotoxicology data for some taxonomic groups for azadirachtin are limited or nonexistent. Many of the studies were conducted with an extract of neem that contained azadirachtin but might also contain other constituents that could enhance the toxicity. The complete lack of data for reptiles, terrestrial-phase amphibians, and soil-dwelling invertebrates precludes a definitive determination of risk potential for these groups. However, the low potential for risk in other terrestrial groups suggests there is not likely a high potential for adverse effects in these groups.

Azadirachtin is classified as practically nontoxic to birds and mammals based on single dose, acute studies. Longer exposures to azadirachtin in diets did cause some adverse effects in mammals. Since azadirachtin breaks down quickly in the environment, unless frequent, repeated applications are made, adverse effects to birds or mammals is unlikely.

From the available information, it is unclear whether adverse effects could occur to pollinators. Since cannabis is not attractive to pollinators, as long as care is taken to prevent drift of azadirachtin-containing pesticides onto plants attractive to pollinators, there should be a low potential for adverse effects to pollinators.

Azadirachtin is classified as very highly toxic to highly toxic to aquatic species including amphibian tadpoles, fish, freshwater invertebrates, and some aquatic insects. As long as diligent efforts are made to keep azadirachtin out of natural surface waters, including amphibian breeding pools, adverse effects on aquatic species can be prevented.

References


Environmental Fate & Toxicology Summary
*Bacillus amyloliquefaciens* strain D747
(CAS # N/A)

Introduction

*Bacillus amyloliquefaciens* strain D747 (herein referred to as “*B. amyloliquefaciens* strain D747”) is a rod-shaped, gram-positive bacterium and microbial pesticide that occurs naturally in soils (USEPA, 2011). *B. amyloliquefaciens* strain D747 is one of several *Bacillus* species that secrete lipopeptides with antibacterial and anti-fungal properties. When applied to soil or foliage, surfactin lipopeptides act as antibacterial biosurfactants, while iturin and fengycin lipopeptides interact with fungal cell membranes to induce fungitoxicity (Pérez-García et al., 2011). Colonization of *B. amyloliquefaciens* strain D747 on plant roots has also been reported to suppress plant diseases by eliciting induced systemic resistance in host plants, enhancing the plants’ defensive capacity against a variety of pathogens and parasites (Choudhary and Johri, 2009). *B. amyloliquefaciens* strain D747 is applied to crops and ornamental plants in outdoor and indoor settings as a granule, liquid concentrate, ready-to-use solution, and aqueous suspension (DPR, 2017a). *B. amyloliquefaciens* strain D747 was first registered in the United States in 2012 and is currently listed as the active ingredient in seven formulated pesticide products (DPR, 2017a).

Example of Formulated Products*

Double Nickel LC, Double Nickel 55, DefGuard, Triathlon® BA

*Reference to any specific product is for informational purposes only and does not constitute an endorsement or recommendation. Always read and follow label directions. If a label is unavailable, follow guidance in the product’s Safety Data Sheet (SDS) and/or in one or more of the following DPR documents: Pesticide Safety Information Series (PSIS); Compliance Assistance Booklets for Employers; and Pesticide Use Compliance Guide for Employers and Businesses.

Commonly Targeted Pest:

Fungal and bacterial pests including: *Alternaria, Botrytis cinerea, Peronospora* spp., *Rhizoctonia, Xanthomonas* spp. (USEPA, 2011)

Environmental Fate

*B. amyloliquefaciens* strain D747 may remain active after applications in favorable environmental conditions; however, it is not likely that its use as a microbial pesticide will result in significant increases in *B. amyloliquefaciens* native populations in the environment (USEPA, 2011). Because it occurs naturally in soils, *B. amyloliquefaciens* strain D747 may be found in surface and groundwater, but exposure through drinking water is not expected to result in adverse effects (USEPA, 2011). No information was available regarding the naturally occurring levels of *B. amyloliquefaciens*.

Human Risk

Appendix F-39
Toxicity

*B. amyloliquefaciens* strain D747 is not expected to be pathogenic or infective to humans (USEPA, 2011). *B. amyloliquefaciens* strain D747 was not toxic through the acute oral pathway for rats dosed with 1.0x10^8 CFU/animal. Similar results were obtained from studies of rats injected with 1.0x10^7 CFU/animal; *B. amyloliquefaciens* strain D747 was also not toxic or pathogenic to rats dosed intratracheally with 1.0x10^7 CFU/animal (USEPA, 2011). Although no studies were available regarding the effects of technical grade *B. amyloliquefaciens* strain D747 by way of inhalation or dermal exposure, the available studies indicate that end-use products containing *B. amyloliquefaciens* strain D747 are Toxicity Category IV (lowest toxicity) for the acute inhalation and dermal pathways (USEPA, 2011). No adverse effects, infectivity, pathogenicity, or No Observed Adverse Effect Levels (NOAELs) were observed for any exposure pathway or duration considered.

Between 1992 and 2014, there have been no reported agricultural incidents in California implicating *B. amyloliquefaciens* strain D747 as the only active ingredient (DPR, 2017b).

Genotoxicity: No information was available regarding the genotoxic potential of *B. amyloliquefaciens* strain D747.

Mutagenicity: No information was available regarding the mutagenic effects of *B. amyloliquefaciens* strain D747.

Neurotoxicity: No information was available regarding the neurotoxic potential of *B. amyloliquefaciens* strain D747.

Reproductive/Developmental Toxicity: The 1996 Food Quality Protection Act (FQPA) requires the EPA screen pesticide chemicals for their potential to cause endocrine disruption through a two-tiered approach. The United States Environmental Protection Agency (USEPA) program that addresses the screening of pesticides for endocrine disruption is known as the Endocrine Disruption Screening Program (EDSP) (USEPA, 2011). At this time, neither *B. amyloliquefaciens* strain D747 nor other biological agents have been screened under the EDSP (USEPA, 2009, 2013). *B. amyloliquefaciens* strain D747 is not listed as a suspected developmental or reproductive toxicant on Proposition 65 (OEHHA, 2017). No additional information was available regarding the reproductive or developmental toxicity of *B. amyloliquefaciens* strain D747.

Dermal Absorption Factor (DAF): No DAF was available for *B. amyloliquefaciens* strain D747.

Carcinogenicity: *B. amyloliquefaciens* strain D747 has not been listed as a suspected carcinogen by the World Health Organization or as a carcinogen on Proposition 65 by the Office of Environmental Health Hazard Assessment (OEHHA, 2017; WHO, 2017). No additional information was available regarding the carcinogenic potential of *B. amyloliquefaciens* strain D747.
Skin, Eye, or Lung Irritation: No dermal irritation was reported following exposure to end-use products containing *B. amyloliquefaciens* strain D747; however, ocular exposure to granular products containing *B. amyloliquefaciens* strain D747 may cause eye irritation (USEPA, 2011). No information was available regarding the irritative effects of technical grade *B. amyloliquefaciens* strain D747.

Exposure

Exposure pathways considered include: ingestion, inhalation, and dermal absorption. Contact with pesticide residues may occur during pesticide mixing, loading or application, or when handling treated cannabis crop. Although cultivators are not anticipated to intentionally ingest pesticide residues, incidental hand-to-mouth ingestion of pesticide residues may occur if hands are not properly washed and proper care is not taken to avoid unintentional transfer of pesticide residues from hands to mouth. Respiratory allergenicity related to prolonged or repeated inhalation exposure to aerosolized pesticide derived from the use of application equipment, such as backpack sprayers, is anticipated to be mitigated when the required respiration equipment is utilized in accordance with the label (USEPA, 2011). Potential allergic sensitization related to prolonged or repeated dermal exposure is expected to be mitigated when handlers in agricultural settings wear a long-sleeved shirt, long pants, socks, shoes, and waterproof gloves in accordance with the label (USEPA, 2011). A Restricted-Entry Interval (REI) of 4 hours is required when *B. amyloliquefaciens* strain D747 is applied to agricultural crops (Certis USA, 2014, 2016; General Hydroponics, 2016; OHP, Inc., 2016).

Conclusion

Based on available toxicity data and limited occupational exposure, *B. amyloliquefaciens* strain D747 is not anticipated to result in adverse effects to human health for any exposure pathway. No adverse health effects were observed at the highest doses tested for any route of exposure and any reported irritating effects were both minor and temporary. The available evidence does not indicate that *B. amyloliquefaciens* is carcinogenic or likely to cause reproductive or development effects. There is potential for human contact with *B. amyloliquefaciens* strain D747 when applied as a microbial pesticide; however, this exposure is significantly reduced when personal protective equipment is used consistent with the label. Due to the low mammalian toxicity, lack of adverse incidents, natural presence in the environment, and limited exposure, *B. amyloliquefaciens* strain D747 is not anticipated to result in unacceptable risk to cultivators when applied as a pesticide in cannabis cultivation.

Cultivators applying pesticides should always read and follow the label, Safety Data Sheet, and relevant DPR documents including the DPR Pesticide Safety Information Series (PSIS) (DPR, 2015), DPR Compliance Assistant Booklet for Employers (DPR, 2013), and the DPR Pesticide Use Compliance Guide for Employers and Businesses (DPR, 2010).
Ecological Risk

Ecotoxicity data for *B. amyloliquefaciens* are lacking or at least very limited for all groups of ecological receptors. Acute ecotoxicity endpoints can be categorized from practically nontoxic to very highly toxic (see Ecotoxicity Classification Table below). However, microbial pesticides are not always evaluated using the standard ecotoxicity classification categories.

### Acute Ecotoxicity Categories for Terrestrial and Aquatic Organisms.

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Avian: Acute Oral LD$_{50}^1$ (mg/kg)</th>
<th>Aquatic Organisms: Acute LC$_{50}^2$ (ppm or mg/L)</th>
<th>Wild Mammals: Acute Oral LD$_{50}$ (mg/kg)</th>
<th>Non-Target Insects: Acute LD$_{50}$ (µg/bee)</th>
</tr>
</thead>
<tbody>
<tr>
<td>very highly toxic</td>
<td>&lt;10</td>
<td>&lt;0.1</td>
<td>&lt;10</td>
<td>&lt;2</td>
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<tr>
<td>highly toxic</td>
<td>10-50</td>
<td>0.1 - 1</td>
<td>10 - 50</td>
<td>&lt;2</td>
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<tr>
<td>moderately toxic</td>
<td>51-500</td>
<td>1 - 10</td>
<td>51 - 500</td>
<td>2 - 11</td>
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<tr>
<td>slightly toxic</td>
<td>501-2000</td>
<td>&gt;10 - 100</td>
<td>501 - 2000</td>
<td>&gt;11</td>
</tr>
<tr>
<td>practically nontoxic</td>
<td>&gt;2000</td>
<td>&gt;100</td>
<td>&gt;2000</td>
<td>&gt;11</td>
</tr>
</tbody>
</table>

Taken from USEPA, 2012

1. LD$_{50}$ is the median lethal dose at which 50% of the test animals die from the treatment.
2. LC$_{50}$ is the median lethal concentration at which 50% of the test animals die from the treatment.

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**Birds**

The acute oral LD$_{50}$ for *B. amyloliquefaciens* strain D747 is greater than $4.5 \times 10^{11}$ spores/kg BW or greater than $8 \times 10^9$ spores/bird in northern bobwhite (*Colinus virginianus*) (USEPA, 2011). Additionally, *B. amyloliquefaciens* has been studied as a feed additive in poultry. One-day-old broiler chicks received a corn-soybean meal basal diet in mash form supplemented with $1.08 \times 10^{10}$ CFU *B. amyloliquefaciens/kg* for 21 days. This level of dietary exposure did not produce any adverse effects and lowered the immune response caused by challenge with lipopolysaccharide from *Escherichia coli* (Li et al., 2015). In another study, *B. amyloliquefaciens* LFB112 was fed to male broiler chicks at concentrations of $10^7$, $10^8$, and $10^9$ CFU/kg starting as 1-day-old chicks for 42 days. No adverse effects were observed and growth was improved (Wei et al., 2017).

**Mammals (see Toxicity section under Human Risk for additional information)**

Mammalian toxicity data are limited. In a study submitted to USEPA, *B. amyloliquefaciens* strain D747 was not infective, pathogenic, or toxic to rats when orally dosed with $1.0 \times 10^8$ CFU/animal (USEPA, 2011).

**Reptiles**

No relevant toxicity data were available for *B. amyloliquefaciens* for reptiles.
Amphibians

No relevant toxicity data were available for *B. amyloliquefaciens* for amphibians.

Pollinators

Two honey bee studies submitted to USEPA showed no adverse effects of *B. amyloliquefaciens* D747 after 48 hours and 17 days, but the exposure levels were not provided. USEPA concluded that *B. amyloliquefaciens* was not expected to pose a risk to honey bees or other beneficial insects (USEPA, 2011).

Soil-Dwelling Invertebrates

No toxicity data were available for soil-dwelling invertebrates, and since *B. amyloliquefaciens* is often isolated from native soils, no adverse effects on soil-dwelling invertebrates are anticipated.

Fish

In a 30-day study with rainbow trout (*Oncorhynchus mykiss*), the LC$_{50}$ for *B. amyloliquefaciens* strain D747 was $8.1 \times 10^{10}$ CFU/L, and the NOEC based on sub-lethal effects was $1.44 \times 10^{10}$ CFU/L (USEPA, 2011).

Several studies have investigated using *B. amyloliquefaciens* as a feed supplement in farm-raised fish. Diet containing *B. amyloliquefaciens* was fed to catla (*Catla catla*), an important Indian carp species, as a probiotic. *B. amyloliquefaciens* was incorporated into the diet at concentrations of $10^7$, $10^8$ and $10^9$ CFU/g diet for eight weeks. These concentrations did not produce any harmful effects and provided protection against pathogenic bacteria (Das *et al.*, 2013). In common carp (*Cyprinus carpio*), brewer’s yeast (*Saccharomyces cerevisiae*) that contained up to $1.2 \times 10^{10}$ CFU/g *B. amyloliquefaciens* fed for 8 weeks had little effect on growth, but did provide some disease protection (Huang *et al.*, 2015). When *B. amyloliquefaciens* was provided to Nile tilapia (*Oreochromis niloticus*) in the diet at concentrations of $10^4$ or $10^6$ CFU/g of diet for 30 days (Reda and Selim, 2015) or up to 60 days (Selim and Reda, 2015), no adverse effects were observed, and *B. amyloliquefaciens* improved disease resistance (Reda and Selim, 2015) and improved body condition (Selim and Reda, 2015). Ridha and Azad (2012) also found supplementary *B. amyloliquefaciens* in the diet was beneficial for Nile tilapia. Diet containing $1 \times 10^8$, $3 \times 10^8$, and $5 \times 10^8$ CFU/g *B. amyloliquefaciens* also was fed to striped catfish (*Pangasianodon hypophthalmus*) for 90 days, with no adverse effects and improved immune response (Truong Thy *et al.*, 2017).

Aquatic Invertebrates

A study with *Daphnia magna* provided an EC$_{50}$ based on mortality/immobility of $3.7 \times 10^{10}$ CFU/L, and a NOEC for sub-lethal effects of $2.84 \times 10^8$ CFU/L (USEPA, 2011).
Conclusions

No toxicity data were available for amphibians, reptiles, and soil-dwelling invertebrates. However, toxicity data available for other taxonomic groups suggests that *B. amyloliquefaciens* would not be harmful for any group of ecological receptors. Acute toxicity test results indicate *B. amyloliquefaciens* was not harmful at high doses in birds, and it has been shown to be beneficial when used as a dietary supplement in birds. The only available toxicity data for mammals indicated that *B. amyloliquefaciens* was not harmful at high dose levels. Honey bees were not harmed following exposure to *B. amyloliquefaciens*, and USEPA concluded that *B. amyloliquefaciens* was not anticipated to be harmful to beneficial insects. As reported for birds, *B. amyloliquefaciens* was not harmful for fish at high concentrations and can be beneficial as a dietary supplement. *B. amyloliquefaciens* was not harmful to aquatic invertebrates at high concentrations. Although toxicity data are limited, the fact that no harmful effects were reported for any test species, and the fact that *B. amyloliquefaciens* can be beneficial, at least for birds and fish, there is no evidence that *B. amyloliquefaciens* will be harmful when used as a pesticide for cannabis cultivation.

References


Appendix F-46
Environmental Fate & Toxicology Summary

*Bacillus subtilis*, QST 713

(CAS # N/A)

**Introduction**

*Bacillus subtilis*, QST 713 (*B. subtilis*) is a rod-shaped, gram positive, bacterium ubiquitous in water, soil, and air. It acts as a pesticide by outcompeting fungi and other bacteria for nutrients and growth sites. In addition to occupying niches of other microbes, *B. subtilis* directly attaches to and colonizes on pathogenic fungi (USEPA, 2000). No toxic mode of action has been identified in mammals (USEPA, 2010). *B. subtilis* is applied to food crops as a powder that is dissolved in water and then applied directly to plants via ground equipment (USEPA, 2000). As of 2016, 14 pesticide products were registered for use in California containing the active ingredient *B. subtilis* (DPR, 2016a).

**Example of Formulated Products**

Cease®, Serenade® Garden Disease Control

*Reference to any specific product is for informational purposes only and does not constitute an endorsement or recommendation. Always read and follow label directions. If a label is unavailable, follow guidance in the product’s Safety Data Sheet (SDS) and/or in one or more of the following DPR documents: Pesticide Safety Information Series (PSIS); Compliance Assistance Booklets for Employers; and Pesticide Use Compliance Guide for Employers and Businesses.

**Commonly Targeted Pest:**

Powdery mildew, sour rot, scab, downy mildew, early and later blight (USEPA 2000; DPR, 2017)

**Environmental Fate**

*B. subtilis* is ubiquitous in soil, plants, water, and air. Viable *B. subtilis* has been reported to exist at natural populations levels of 10⁶ to 10⁷ per gram of soil (USEPA, 1997; 2000; FDA, 2014). Endospores of *B. subtilis* are known to persist in the environment, although to what degree depends on soil properties and the presence of other microbial competitors (USEPA, 1997; Eur. Com., 2008).

**Human Risk**

**Toxicity**

Acute toxicity endpoints can be categorized from lowest toxicity to highest toxicity as shown in the table below. Throughout the discussion of human toxicity, these classifications will be referenced.
Acute Toxicity Categories for Human

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Acute Oral LD&lt;sub&gt;50&lt;/sub&gt;</th>
<th>Acute Inhalation LC&lt;sub&gt;50&lt;/sub&gt;</th>
<th>Acute Dermal LD&lt;sub&gt;50&lt;/sub&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (highest toxicity)</td>
<td>≤ 50 mg/kg</td>
<td>≤ 0.2 mg/L</td>
<td>≤ 200 mg/kg</td>
</tr>
<tr>
<td>II (moderately toxic)</td>
<td>&gt;50 - 500 mg/kg</td>
<td>&gt;0.2 - 2 mg/L</td>
<td>&gt;200 - 2000 mg/kg</td>
</tr>
<tr>
<td>III (slightly toxic)</td>
<td>&gt;500 - 5,000 mg/kg</td>
<td>&gt;2 - 20 mg/L</td>
<td>&gt;2000 - 20,000 mg/kg</td>
</tr>
<tr>
<td>IV (lowest toxicity)</td>
<td>&gt;5000 mg/kg</td>
<td>&gt;20 mg/L</td>
<td>&gt;20,000 mg/kg</td>
</tr>
</tbody>
</table>

Reference: 40 CFR 156.62
1. LD<sub>50</sub> is the median lethal dose at which 50% of the test animals die from the treatment.
2. LC<sub>50</sub> is the median lethal concentration at which 50% of the test animals die from the treatment.

*B. subtilis* has a long history of safe use in fermented foods and is not known to be pathogenic to humans (USEPA, 2010). It is classified in Toxicity Category IV (lowest toxicity) for the acute oral pathway based on studies that investigated up to 1.13 x 10<sup>8</sup> colony forming units (cfu) dissolved in 1 mL per rat. No abnormalities were reported clinically or in gross necropsy. In studies evaluating acute/subchronic pulmonary toxicity, no adverse effects were identified (USEPA, 2010). Therefore, neither a No Observed Adverse Effect Level (NOAEL) nor LC<sub>50</sub> has been reported for this pathway. *B. subtilis* is classified in Toxicity Category III (slightly toxic) for acute dermal exposure with an LD<sub>50</sub> estimated to be greater than 2,000 mg/kg body weight. No other toxicological endpoints were established for any other route of exposure route or duration considered. *B. subtilis* has been reported to cause slight dermal and ocular irritation in sensitive individuals (USEPA, 2006; 2010). Studies indicate that dermal irritation clears within 2 days and eye irritation clears within 4 days (USEPA, 2010). *B. subtilis* may cause delayed hypersensitivity to sensitive individuals (USEPA, 2000; 2010). No route of exposure evaluated suggests that *B. subtilis* impacts the immune system of mammals (USEPA, 2000). *B. subtilis* is not considered toxic nor pathogenic to humans, animals, or plants (USEPA, 2010). No adverse effects to human health from the use of *B. subtilis* is anticipated when used as a pesticide in accordance with label language.

Between 1992 and 2014, there have been no agricultural incidents involving *B. subtilis QST 713* as the only implicated pesticide in California (DPR, 2016b).

*Genotoxicity:* No information was available regarding the genotoxic potential of *B. subtilis*.

*Mutagenicity:* No information was available regarding the mutagenic potential of *B. subtilis*.

*Neurotoxicity:* No evidence was located suggesting that *B. subtilis* used as pesticides has a neurotoxic mode of action or neurotoxic potential in mammals.
Reproductive/Developmental Toxicity: The 1996 Food Quality Protection Act (FQPA) requires the United States Environmental Protection Agency (USEPA) screen pesticide chemicals for their potential to cause endocrine disruption through a two-tiered approach. The USEPA program that addresses the screening of pesticides for endocrine disruption is known as the Endocrine Disruption Screening Program (EDSP) (USEPA, 2016). The EDSP investigated the potential for \( B.\ subtilis \) to interfere with the endocrine system. Although no specific tests were conducted to determine its potential as an endocrine disruptor, the EDSP concluded it is unlikely that \( B.\ subtilis \) would have estrogenic or endocrine to mammals (USEPA, 2006). \( B.\ subtilis \) is not listed as a developmental toxicant on the Proposition 65 list (OEHHA, 2016). No additional information was available regarding the reproductive or developmental toxicity of \( B.\ subtilis \).

Dermal Absorption Factor (DAF): No DAF was available for \( B.\ subtilis \).

Carcinogenicity: \( B.\ subtilis \) is not listed as a suspected carcinogen by the World Health Organization nor is listed as a carcinogen on Proposition 65 (OEHHA, 2016; WHO, 2016). No additional information was available regarding the carcinogenic potential of \( B.\ subtilis \).

Skin, Eye, or Lung Irritation: Contact with \( B.\ subtilis \) may cause dermal irritation (USEPA, 2000). It is possible that \( B.\ subtilis \) is a dermal sensitizer, causing mild delayed hypersensitive responses in certain individuals (USEPA, 2006).

Exposure

Exposure pathways considered were ingestion, inhalation, and dermal absorption. Contact with pesticide residues may occur during pesticide mixing, loading or application or when handling treated cannabis crop. Although cultivators are not anticipated to intentionally ingest pesticide residues, incidental hand-to-mouth ingestion of pesticide residues may occur if hands are not properly washed and proper care is not taken to avoid unintentional transfer of pesticide residues on hands to mouth. Inhalation and dermal contact with aerosolized \( B.\ subtilis \) potentially generated from the use of application equipment, such as backpack sprayers, is significantly reduced when the required respirators, long-sleeves and pants, waterproof glasses and gloves, and shoes and socks are utilized (USEPA, 2006). Additionally, the USEPA requires a Restricted-entry Interval (REI) of 4 hours for occupational use of \( B.\ subtilis \), suggesting inhalation, dermal, and ocular exposure due to post-application contact is further reduced (USEPA, 2006).

Conclusion

Based on available toxicity data, the use of \( B.\ subtilis \) as a pesticide is not anticipated to have adverse effects to cultivators for the acute or chronic oral, dermal, and inhalation exposure pathways. No NOAELs have been established for any exposure pathway or duration considered. Due to the low mammalian toxicity, history of safe use, and limited exposure, \( B.\ subtilis \) is not anticipated to result in unacceptable risk to cultivators when applied as a pesticide in cannabis cultivation.

Cultivators applying pesticides should always read and follow the label, SDS and relevant DPR documents including the DPR Pesticide Safety Information Series (PSIS) (DPR, 2015), DPR
Compliance Assistant Booklet for Employers (DPR, 2010a) and the DPR Pesticide Use Compliance Guide for Employers and Businesses (DPR, 2010b).

Ecological Risk

Ecotoxicity data for *B. subtilis*, QST 713 is lacking or at least very limited for all groups of ecological receptors. Because of the limited amount of information, the ecotoxicity results for any strain of *B. subtilis* are reported when available. Acute ecotoxicity endpoints can be categorized from practically nontoxic to very highly toxic (see Ecotoxicity Classification Table below). Throughout the discussion of ecotoxicity results, these toxicity classes will be used. However, microbial pesticides are not always evaluated using the standard ecotoxicity classification categories.

### Acute Ecotoxicity Categories for Terrestrial and Aquatic Organisms.

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Avian: Acute Oral LD₅₀¹ (mg/kg)</th>
<th>Aquatic Organisms: Acute LC₅₀² (ppm or mg/L)</th>
<th>Wild Mammals: Acute Oral LD₅₀ (mg/kg)</th>
<th>Non-Target Insects: Acute LD₅₀ (µg/bee)</th>
</tr>
</thead>
<tbody>
<tr>
<td>very highly toxic</td>
<td>&lt;10</td>
<td>&lt;0.1</td>
<td>&lt;10</td>
<td></td>
</tr>
<tr>
<td>highly toxic</td>
<td>10 - 50</td>
<td>0.1 - 1</td>
<td>10 - 50</td>
<td>&lt;2</td>
</tr>
<tr>
<td>moderately toxic</td>
<td>51 - 500</td>
<td>&gt;1 - 10</td>
<td>51 - 500</td>
<td>2 - 11</td>
</tr>
<tr>
<td>slightly toxic</td>
<td>501 - 2000</td>
<td>&gt;10 - 100</td>
<td>501 - 2000</td>
<td></td>
</tr>
<tr>
<td>practically nontoxic</td>
<td>&gt;2000</td>
<td>&gt;100</td>
<td>&gt;2000</td>
<td>&gt;11</td>
</tr>
</tbody>
</table>

Taken from USEPA, 2012

1 LD₅₀ is the median lethal dose at which 50% of the test animals die from the treatment
2 LC₅₀ is the median lethal concentration at which 50% of the test animals die from the treatment

Birds

The avian oral LD₅₀ in bobwhite quail (*Colinus virginianus*) was reported as greater than 5,000 mg/kg body weight. *B. subtilis*, QST 713 is considered practically non-toxic to bobwhite quail (see Ecotoxicity Classification Table above) due to the high dose used and the effects observed (USEPA, 2006).

The beneficial impacts of adding *B. subtilis* to poultry feed has been investigated for a number of strains. One-day-old broiler chicks were fed diet containing $8 \times 10^5$ *B. subtilis* DSM17299 spores/g of feed for 42 days. *B. subtilis* DSM17299 significantly reduced the *Salmonella* load in the intestinal tract of the chickens as well as in the surrounding environment, with no adverse effects (Knap et al., 2011). *B. subtilis* (unidentified strain) was added to diets of one-day-old chicken pullets along with other probiotics. No adverse effects occurred as a result of adding the combination of probiotics (Yitbarek et al., 2015). Three-week-old male broilers were fed diets containing 0.1 percent *B. subtilis* RX7 at $1.0 \times 10^9$ cfu/g and 0.1 percent *B. subtilis* B2A at $1.0 \times 10^9$ cfu/g for 10 days. Feeding *B. subtilis* RX7 and B2A strains in broilers demonstrated no adverse effects and was likely beneficial (Park and Kim, 2015).
Mammals (see Toxicity section under Human Risk for additional information)

The acute oral toxicity/pathogenicity test for *B. subtilis*, QST 713 were classified as Toxicity Category IV (USEPA, 2006) which is greater than 5,000 mg/kg (see Acute Toxicity Categories for Humans Table above). According to the toxicity classification system used for pesticide ecotoxicity), the toxicity of *B. subtilis*, QST 713 to mammals can be classified as practically nontoxic (see Ecotoxicity Classification Table above).

Different strains of *B. subtilis* have been investigated as probiotic feed additives. *B. subtilis* MA139 spore forming culture was added to the diet of piglets in lieu of antibiotics by mixing at a 1:1 ratio with corn meal. The prepared diets contained up to $2.2 \times 10^7$ cfu/g feed. The results showed *B. subtilis* MA139 is a promising alternative to antibiotics for use as a feed additive in piglet diets (Guo et al., 2006). In another study, New Zealand white rabbits were dosed with 1 mL containing $1 \times 10^9$ spores *B. subtilis*, Natto daily for 30 days. There were no adverse effects on general health, although it appeared there may have been some effects on blood parameters (Hong et al., 2008). Guinea pigs were also dosed with *B. subtilis*, Natto, but received a single dose containing $1 \times 10^{12}$ spores. No effects on food consumed or weight gain were observed, but again there appeared to have been some effects on blood parameters (Hong et al., 2008).

Reptiles

Two species of turtles received *B. subtilis*, PB6 or C-3102 in their diets. Yellow-bellied sliders (*Trachemys scripta scripta*) were fed diets containing $2 \times 10^9$ cfu *B. subtilis*, PB6/g of diet or diet containing $1 \times 10^{10}$ cfu *B. subtilis*, C-3102/g of diet. Diets supplemented with *B. subtilis* strains were fed for 20 weeks. Common musk turtles (*Sternotherus odoratus*) were fed diets containing $2 \times 10^9$ cfu *B. subtilis*, PB6/g of diet for 52 weeks. There were no apparent adverse effects for either turtle on either supplemented diet (Rawski et al., 2016).

Amphibians

No relevant toxicity data were available for *B. subtilis* QST 713 for amphibians.

Pollinators

Honeybees (*Apis mellifera*) provided diets containing *B. subtilis*, QST 713 exhibited no adverse effects. There were no behavioral or morphological abnormalities seen in any of the treatments in the two studies that exposed bees all the way to total adult honeybee emergence (22 and 24 days). Since the LD$_{50}$ was greater than 100,000 ppm, which represents an application rate of 400X and greater than 800X the estimated environmental concentration (USEPA, 2006), no adverse effects to honeybees is expected from terrestrial application of *B. subtilis*, QST 713 for cannabis cultivation.

Bumblebees (*Bombus terrestris*) received a topical dose of 50 µL of a solution containing $7.5 \times 10^9$ cfu *B. subtilis*, QST 713/L (as Serenade®) or a dose of $3.75 \times 10^5$ cfu/bee. Bumblebees were also provided sugar water containing the same concentration or pollen sprayed to saturation with the same concentration of *B. subtilis*, QST 713. No lethal effects were observed after 72 hours,
but mortality occurred after 11 weeks when topically treated or exposed orally. *B. subtilis*, QST 713 was classified as highly toxic. A reduction to 1/2 the treatment rate via topical exposure did not result in high mortality, but orally treated with 1/10th the original rate was still highly toxic with worker death causing reproductive failure (Mommaerts et al., 2009).

Another species of bumblebee, (*Bombus impatiens*), dosed topically with 50 µL solution containing up to 1.90 x 10^{11} cfu/L (as Serenade® Max) leading to a higher dose of 9.5 x 10^{6} cfu/bee than in the previous study. Bumblebees were also fed solutions (60:40, honey:water) containing up to 1.90 x 10^{11} cfu/L. No effects after topical treatment at any dose after 60 days following treatment, no affect after 30 days of feeding, but drone production was adversely affected (Ramanaidu and Cutler, 2012).

**Soil-Dwelling Invertebrates**

No relevant toxicity data were available for *B. subtilis* QST 713 for earthworms or other soil-dwelling invertebrates.

**Fish**

The 30-Day LC₅₀ in rainbow trout (*Oncorhynchus mykiss*) was estimated as 1.4 x 10^{7} cfu/mL. *B. subtilis*, QST 713 in water and provided concurrently in feed. The no mortality and NOAEL was 1.7 x 10^{6} cfu/mL. Since the observed adverse effects were greater than 10X the Maximum Hazard Dose of 10^{6} cfu/mL, no hazard to freshwater fish populations is expected (USEPA, 2006) following applications made in cannabis cultivation.

Mediterranean gilthead seabream (*Sparus aurata*) were fed a diet supplemented with 10^{7} cfu *B. subtilis*, CECT 35/g of diet for up to 3 weeks. *B. subtilis* produced a beneficial immune system response, which occurred mostly during the first 2 weeks of feeding (Salinas et al., 2005).

**Aquatic Invertebrates**

The 21-Day EC₅₀ for *Daphnia magna* was estimated as 1.6 x 10^{6} cfu/mL. *B. subtilis*, QST 713/mL and the NOAEL was 7.9 x 10^{5} cfu/mL. Since the EC₅₀ is above the required maximum hazard test dose of 10^{6} cfu/mL, no hazard to aquatic invertebrate populations is expected (USEPA, 2006).

There was no reported mortality or other adverse effects observed in grass shrimp (*Palaemonetes* sp.) over the 30-day test period. The 30-day LC₅₀ for grass shrimp was greater than 3.7 x 10^{6} cfu *B. subtilis*, QST 713/g in feed. This value was 100X the estimated environmental concentration at the maximum label application rate of 10 lbs./acre. Since the LC₅₀ is above the required maximum hazard test dose of 10^{6} cfu/mL, no hazard to estuarine animal populations is expected (USEPA, 2006) following applications in cannabis cultivation.

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* EC₅₀ is the effective concentration at which an adverse effect is noted in 50% of the test organisms. For aquatic invertebrates it can be difficult to determine mortality, so an EC₅₀ based on immobility is often reported.
**B. subtilis**, L10 and G1 were added into the rearing water of Pacific white shrimp (*Litopenaeus vannamei*) to give a final concentration of up to $10^8$ cfu/mL. Exposure to *B. subtilis* was beneficial, not harmful (Zokaeifar et al., 2014)

**Conclusions**

Sufficient ecotoxicology data for all taxonomic groups for *B. subtilis*, including strains other than QST 713, was available, except for amphibians and soil-dwelling invertebrates. The low potential for risk in terrestrial vertebrate taxonomic groups and aquatic species suggests there is not likely a high potential for adverse effects in any of these groups.

There is conflicting evidence for pollinators with honeybees showing no adverse effects and two species of bumblebees showing potentially adverse effects. Without specific details on how *B. subtilis*, QST 713 will be used in cannabis cultivation and as a precaution, applications of *B. subtilis*, QST 713 should not be made when pollinators are present or allowed to drift to flowers attractive to pollinators.

**References**


Environmental Fate & Toxicology Summary

*Bacillus thuringiensis*
(CAS # 68038-71-1)

Introduction

*Bacillus thuringiensis* (herein referred to as “*B. thuringiensis*”) are naturally occurring, rod-shaped, gram-positive bacteria in soil that produce one or more protein parasporal crystals which are toxic to insects (USEPA, 1998a). When ingested, the crystals from *B. thuringiensis* form delta-endotoxins in the insect gut, which bind to receptors in the gut, disrupt the osmotic balance and ultimately kill the insect (USEPA, 1998a). For the purposes of this ingredient summary, *B. thuringiensis* refers specifically to the strains *israelensis* and *kurstaki*. The *israelensis* and *kurstaki* strains are differentiated by different flagella serotype antigens. *B. thuringiensis* is applied to crops and ornamental plants in outdoor and indoor settings as a granule, a dry flowable, an aqueous suspension, a powder, a dust, or an oil (USEPA, 1998b). *B. thuringiensis* was first registered in the United States in 1961 and as of 2011, more than 100 formulated pesticide products listed it as an active ingredient (USEPA, 2011).

Example of Formulated Products*

DiPel® DF Biological Insecticide, Gnatrol® WDG Biological Larvicide

*Reference to any specific product is for informational purposes only and does not constitute an endorsement or recommendation. Always read and follow label directions. If a label is unavailable, follow guidance in the product’s Safety Data Sheet (SDS) and/or in one or more of the following DPR documents: Pesticide Safety Information Series (PSIS); Compliance Assistance Booklets for Employers; and Pesticide Use Compliance Guide for Employers and Businesses.

Commonly Targeted Pest:

Moth and fly larvae (e.g., cutworms, budworms, borers, fungus gnats) (DPR, 2017)

Environmental Fate

*B. thuringiensis*, when used as a pesticide, is expected to persist in soil for several months (USEPA, 1998a). However, it occurs naturally in the soil independent of its use as a pesticide (USEPA, 2011). *B. thuringiensis* is not expected to persist on foliar surfaces due to its rapid degradation by photolysis (USEPA, 1998a).

Human Risk

Toxicity

*B. thuringiensis* is not expected to be pathogenic or infective to humans (USEPA, 1998a,b). *B. thuringiensis* is categorized in Toxicity Category IV (lowest toxicity) for the acute oral pathway based on studies that investigated doses up to 4.7 x 10^{11} spores/kg body weight. No adverse effects, infectivity, or pathogenicity was observed (USEPA, 1998a). *B. thuringiensis* is
categorized in Toxicity Category IV (lowest toxicity) for the acute inhalation pathway based on studies in mammals exposed to doses of 2.6 x 10^7 spores/kg. No adverse effects, infectivity, or pathogenicity was observed via inhalation. *B. thuringiensis* is categorized in Toxicity Category IV (lowest toxicity) for the acute dermal pathway, based on studies that investigated up to 4.7 x 10^{11} spores/kg body weight in mammals (USEPA, 1998a). More recent studies continue to support the lack of acute, dermal toxicity in rabbits (Arteaga et al., 2014). No adverse effects, infectivity, pathogenicity, or No Observed Adverse Effect Levels (NOAELs) were observed for any exposure pathway or duration considered.

Between 1992 and 2014, there have been 7 incidents in California implicating any strain of *B. thuringiensis* as the only active ingredient. It is not clear what strain(s) were involved in the incident reports (DPR, 2016).

*Genotoxicity:* No information was available regarding the genotoxic potential of *B. thuringiensis.*

*Mutagenicity:* No information was available regarding the mutagenic effects of *B. thuringiensis.*

*Neurotoxicity:* No evidence was located suggesting that *B. thuringiensis* used as pesticides has a neurotoxic mode of action or neurotoxic potential in mammals (USDA, 2004).

*Reproductive/Developmental Toxicity:* The 1996 Food Quality Protection Act (FQPA) requires the EPA screen pesticide chemicals for their potential to cause endocrine disruption through a two-tiered approach. The United States Environmental Protection Agency (USEPA) program that addresses the screening of pesticides for endocrine disruption is known as the Endocrine Disruption Screening Program (EDSP) (USEPA, 2016). The EDSP investigated the potential for *B. thuringiensis* to interfere with the endocrine system. Although no specific tests were conducted to determine its potential as an endocrine disruptor, the EDSP concluded it is unlikely that this organism would have estrogenic or endocrine effects (USEPA, 2011). No strain of *B. thuringiensis* is listed as a suspected developmental toxicant on Proposition 65 (OEHHA, 2016). No additional information was available regarding the reproductive or developmental toxicity of *B. thuringiensis.*

*Dermal Absorption Factor (DAF):* No DAF was available for *B. thuringiensis.*

*Carcinogenicity:* No strain of *B. thuringiensis* is listed as a suspected carcinogen by the World Health Organization nor is listed as a carcinogen on Proposition 65 (OEHHA, 2016; WHO, 2016). No additional information was available regarding the carcinogenic potential of *B. thuringiensis.*

*Skin, Eye, or Lung Irritation:* No dermal irritation was reported following exposure to *B. thuringiensis*. However, dry, anhydrous preparation of *B. thuringiensis* may cause eye irritation (USEPA, 1998a).

*Exposure*

Appendix F-57
Exposure pathways considered were ingestion, inhalation, and dermal absorption. Contact with pesticide residues may occur during pesticide mixing, loading or application or when handling treated cannabis crop. Although cultivators are not anticipated to intentionally ingest pesticide residues, incidental hand-to-mouth ingestion of pesticide residues may occur if hands are not properly washed and proper care is not taken to avoid unintentional transfer of pesticide residues on hands to mouth. Inhalation exposure to aerosolized pesticide derived from the use of application equipment, such as backpack sprayers, is anticipated to be mitigated when the required respiration equipment is utilized in accordance with label (USEPA, 1998a). There is potential for dermal and ocular contact to *B. thuringiensis* in occupational settings. However, the use of gloves and goggles in compliance with the label decreases the potential for eye exposure (USEPA, 1998b). A Restricted-entry Interval (REI) of 4-48 hours is required when *B. thuringiensis* is applied to agricultural crops (USEPA, 1998a).

**Conclusion**

Based on available toxicity data and limited occupational exposure, *B. thuringiensis* is not anticipated to result in adverse effects to human health for any exposure pathway. No NOAELs were observed for any exposure pathway or duration considered. There is potential for human contact with *B. thuringiensis* when applied as a pesticide; however, this exposure is significantly reduced when personal protective equipment is used in accordance with the label. Due to the low mammalian toxicity, history of safe use, natural presence in the environment, and limited exposure, *B. thuringiensis* is not anticipated to result in unacceptable risk to cultivators when applied as a pesticide in cannabis cultivation.

Cultivators applying pesticides should always read and follow the label, SDS and relevant DPR documents including the DPR Pesticide Safety Information Series (PSIS) (DPR, 2015), DPR Compliance Assistant Booklet for Employers (DPR, 2010a) and the DPR Pesticide Use Compliance Guide for Employers and Businesses (DPR, 2010b).

**Ecological Risk**

Two strains of *B. thuringiensis* were considered for review: *israelensis*, and *kurstaki*. Toxicity data for each strain was not available for all groups considered. Acute ecotoxicity endpoints can be categorized from practically nontoxic to very highly toxic as shown in the following (see Ecotoxicity Classification Table below). Throughout the discussion of ecotoxicity results, these toxicity classes will be used. However, microbial pesticides are not always evaluated using the standard ecotoxicity classification categories.
### Acute Ecotoxicity Categories for Terrestrial and Aquatic Organisms.

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Avian: Acute Oral LD₅₀¹ (mg/kg)</th>
<th>Aquatic Organisms: Acute LC₅₀² (ppm or mg/L)</th>
<th>Wild Mammals: Acute Oral LD₅₀ (mg/kg)</th>
<th>Non-Target Insects: Acute LD₅₀ (µg/bee)</th>
</tr>
</thead>
<tbody>
<tr>
<td>very highly toxic</td>
<td>&lt;10</td>
<td>&lt;0.1</td>
<td>&lt;10</td>
<td></td>
</tr>
<tr>
<td>highly toxic</td>
<td>10-50</td>
<td>0.1 - 1</td>
<td>10 - 50</td>
<td>&lt;2</td>
</tr>
<tr>
<td>moderately toxic</td>
<td>51-500</td>
<td>&gt;1 - 10</td>
<td>51 - 500</td>
<td>2 - 11</td>
</tr>
<tr>
<td>slightly toxic</td>
<td>501-2000</td>
<td>&gt;10 - 100</td>
<td>501 - 2000</td>
<td></td>
</tr>
<tr>
<td>practically nontoxic</td>
<td>&gt;2000</td>
<td>&gt;100</td>
<td>&gt;2000</td>
<td>&gt;11</td>
</tr>
</tbody>
</table>

*Note: Taken from USEPA, 2012*

1 LD₅₀ is the median lethal dose at which 50% of the test animals die from the treatment
2 LC₅₀ is the median lethal concentration at which 50% of the test animals die from the treatment

#### Birds

**Strain israelensis**

Acute oral toxicity test results were noted as practically nontoxic based on dietary exposure of 3,100 mg/kg-d for 5 days for the mallard and bobwhite quail (USEPA, 1998a). Japanese quail (*Coturnix* sp.) dosed intranasally with 50 mg/kg solubilized parasporal crystalline proteins experienced no mortality (Kallapur et al., 1992).

In a field study, red-winged blackbird reproductive success was monitored following applications at rates for *B. thuringiensis, israelensis* of 1.0 to 1.8 g/hectare (ha) in western Wright County, Minnesota, USA. Each site was treated six times during the spring and summer of 1991, 1992, and 1993 resulting in no difference in egg volume between control and treated marshes. Although hatch rate was lower on treated sites than control sites, the fact that the number fledged and male weight at day 8 were significantly higher in treated marshes compared with control sites in 1993 led to the conclusion that treatments of wetlands with *B. thuringiensis, israelensis* had no negative effects on production of young (Hanowski et al., 1997; Niemi et al., 1999).

**Strain kurstaki**

Acute oral toxicity tests resulted in LD₅₀ₐ greater than 1.8 x 10¹⁰ spores/kg (practically nontoxic after 2,900 mg/kg for 5 days) for the mallard and bobwhite quail (USEPA, 1998a, Note the test results are incorrectly shown to be an LC₅₀ in USEPA, 1998).

In a field study, Garry oak–dominated habitats on Vancouver Island, British Columbia received applications at a rate of 50 billion international units (IU) in 4.0 L/ha. Songbirds at 14 sprayed treatment sites and 14 unsprayed reference sites in and around Victoria experienced few, if any, effects on abundance as of the results of *B. thuringiensis, kurstaki* applications (Sopuck, et al., 2002).

#### Mammals (see Toxicity section under Human Risk for additional information)
Strain israelensis
Rats orally dosed with 2 mL of test substance containing 3.4 x 10^8 colony forming units (cfu) did not experience any mortality or demonstrate any clinical signs of toxicity (Mancebo et al., 2011). New Zealand White rabbits dermally exposed for 24 hours to 4 mL of the test substance (containing a total of 2.58 x 10^9 spores) experienced no mortality or deleterious effects, either immediately or during 14 days observation period (Arteaga et al., 2014).

Reptiles
No relevant toxicity data were available for B. thuringiensis for reptiles.

Amphibians
Strain israelensis
Tadpoles of the South American common frog (Leptodactylus latrans) were exposed for 48 hours to up to 40 mg/L B. thuringiensis, israelensis as Introban®, containing 1200 International Toxic Units (ITU)/mg. A dose of 40 mg/L killed all the tadpoles. The acute LC50 was 22.45 mg/L with the No Observable Effect Concentration (NOEC) being 2.5 mg/L and Lowest Observed Effective Concentration (LOEC) being 5 mg/L (Lajmanovich et al., 2015).

Pollinators
Strain israelensis
B. thuringiensis, israelensis had a 5-day LC50 for the honeybee of greater than 7.0 x 10^7 cfu/g diet (USEPA, 1998a).

Strain kurstaki
B. thuringiensis, kurstaki is classified as practically nontoxic (see Ecotoxicity Classification Table above) to honeybees with an LD50 greater than 23.2 µg/bee and a No Observed Effect Level (NOEL) of 7.7 µg/bee (USEPA, 1998a).

Bumblebees (B. terrestris) received a topical treatment with 50 µL Dipel®, WP containing 1.6 x 10^4 IU/mg formulated product and oral exposure to treated sugar water or pollen sprayed to saturation. The concentration was equivalent to the manufacturer field recommended concentration. Topical treatment(one-time) or oral exposure to treated sugar water or pollen for 11 weeks produced no toxic effects in the workers at the end of 11 weeks, as the worker mortality was no higher than in the respective control nests treated with water (Mommaerts et al., 2010).

Soil-Dwelling Invertebrates
Strain kurstaki
The earthworm Dendrobaena octaedra were exposed in artificial soil at up to 1.2 µL Dipel® 8AF or Dipel® 8L/cm³ or 8.7 µL Dipel® 8AF or Dipel® 8L/g organic matter which is equivalent to 1000x the estimated environmental concentration. Earthworms also were exposed to technical powder containing 147,230 IU B. thuringiensis, kurstaki/g organic matter, also equivalent to
1000x the estimated environmental concentration. No adverse effects at up to 100x the estimated environmental concentration for Dipel® 8L or 1,000x the estimated environmental concentration for Dipel® AF. Survival, growth, and reproduction were all affected by exposure to Dipel® 8L at 1,000x the estimated environmental concentration, but the effect was due to the formulation, not the *B. thuringiensis, kurstaki* (Addison and Holmes, 1996).

**Fish**

**Strain israelensis**
The acute aqueous LC$_{50}$ for rainbow trout was greater than $1.4 \times 10^{10}$ cfu/L, and the dietary LC$_{50}$ was greater than $1.7 \times 10^{10}$ cfu/g food. These results are classified as slightly toxic (USEPA, 1998a). For bluegill (*Lepomis macrochirus*), the acute aqueous LC$_{50}$ was greater than $1.6 \times 10^{10}$ cfu/L, and the dietary LC$_{50}$ was greater than $1.3 \times 10^{10}$ cfu/g food (USEPA, 1998a). For sheepshead minnow, the dietary LC$_{50}$ was greater than $2 \times 10^{10}$ cfu/g food with a NOEL greater than $2.0 \times 10^{10}$ cfu/g food. These results are classified as practically nontoxic (USEPA, 1998a). These results are sufficient to classify *B. thuringiensis, israelensis* as slightly to practically nontoxic to fish.

In zebrafish (*Danio rerio*), exposure to up to $5 \times 10^{6}$ spores/mL for 30 days resulted in an LC$_{50}$ greater than $5 \times 10^{6}$ spores/mL with a NOEC for mortality of $5 \times 10^{6}$ spores/mL (Grisolia et al., 2009). Mummichogs (*Fundulus heteroclitus*) exposed to Vectobac EC (containing 1,176,000 ITU/L) resulted in a 96-hour LC$_{50}$ of 980 mg/L with a NOEC of 22.36 mg/L (Lee and Scott, 1989). In another study, the marine species, Pacific blue-eye (*Pseudomugil signifer*), had an LC$_{50}$ of $6.1 \times 10^{11}$ ITU as compared to the estimated field concentration $1.279 \times 10^{9}$ ITU. With an LC$_{50}$ value that was 477 times the estimated field concentration, the toxicity for *B. thuringiensis, israelensis* to Pacific blue-eye is low (Brown et al., 1998).

Multiple tests with brook trout (*Salvelinus fontinalis*), brown trout (*Salmo trutta*), and steelhead trout (*Oncorhynchus mykiss*) were conducted with different age fish at concentrations ranging from 0 to 10,000 ppm. Most individuals of all trout species became immobilized within 48 h when exposed to *B. thuringiensis, israelensis* concentrations greater or equal to 1,000 ppm. Following the 48-hour exposure, immobilized living fish were returned to clean water where they recovered and survived the remainder of the trial. No trout species were immobilized in *B. thuringiensis, israelensis* solutions below 1,000 ppm, and each species showed similar mortality levels at increased *B. thuringiensis, israelensis* concentrations. No mortality occurred in steelhead up to 1,000 ppm, and the LC$_{50}$s for brown trout and brook trout were 1,691 ppm and 2,321 ppm, respectively (Wipfli et al., 1994).

Vectobac-G (Abbott Laboratories, Chicago, Ill.) is a preparation on corncob grits, and Mosquito Attack (Reuter Laboratories, Inc., Gainesville, Va.) is a wettable powder that contain *B. thuringiensis, israelensis* spore-crystals. Exposure to $6.5 \times 10^{6}$ cfu Vectobac-G/mL resulted in complete mortality of larval fathead minnows (*Pimephales promelas*) within 24 hours. No mortality was seen at $6.2 \times 10^{4}$ and $6.4 \times 10^{5}$ cfu/mL after 24 hours. Vectobac-G and Mosquito Attack produced similar responses. Exposure to $2.0 \times 10^{6}$ cfu Vectobac-G/mL and $6.5 \times 10^{6}$ cfu Mosquito Attack/mL resulted in 60 and 100 percent mortality, respectively, after 96 hours. No mortality or signs of stress were observed at densities of $6.0 \times 10^{5}$ cfu/mL and below with either
formulation. This study demonstrated that fathead minnows rapidly accumulated large numbers of *B. thuringiensis, israelensis* spores, primarily through ingestion. The presence of large numbers of *B. thuringiensis, israelensis* spores in the minnow gastrointestinal (GI) tract verified that the gut, which is the site of pathogenic activity in target species, had been challenged. The observed mortality during exposures to $2.5 \times 10^6$ to $6.5 \times 10^6$ cfu/ml with both formulations was believed to be an indirect effect due to severe dissolved oxygen depletion by components of the formulations rather than specific toxicity of the parasporal crystal (Snarski, 1990).

**Strain kurstaki**

Exposure of zebrafish to $1 \times 10^6$ and $5 \times 10^6$ spores/mL for 30 days resulted in an estimated LC$_{50}$ or greater than $5 \times 10^6$ spores/mL with the NOEC for mortality being $5 \times 10^6$ spores/mL (Grisolia et al., 2009).

**Aquatic Invertebrates**

**Strain israelensis**

*B. thuringiensis, israelensis* is classified as moderately toxic to *Daphnia* sp. with a 21-day LC$_{50}$ between 5 and 50 ppm. Multiple studies were conducted in which applications of Vectobacs 12AS (*B. thuringiensis, israelensis*, 1200 ITU per mg) targeted field rates of 0.8 and 2.5 L/ha directly to water, both in the field and in the laboratory. Nominal concentrations of up to 50 ppm had no effect or limited effects on *Daphnia pulex* or *D. magna* or the midges *Polypedilum nubifer* (Skuse) and *Tanytarsus curticornis* Kieffer (Duchet et al., 2008; 2010; 2015).

Tadpole shrimp (*Triops newberryi*) survived and experienced no effects on growth or reproduction following treatments of VectoBac G (*B. thuringiensis, israelensis*, 200 ITU/mg) at rates of up to 20 lb./acre in outdoor mesocosms (Su and Mulla, 2005).

In a field study, the effect of the treatments on biological diversity and community structure was analyzed in terms of the mean number of cladoceran, copepod, rotifer, and total zooplankton taxa; the percent dominance of individual taxa, that is, the proportion of the total population represented by the first through sixth most abundant species. *B. thuringiensis, israelensis* was applied at rates of 1.0 to 1.8 g/ha in western Wright County, Minnesota, USA. Each site was treated six times during the spring and summer of 1991, 1992, and 1993. No treatment-related effects were observed on the number of taxa, mean annual number of taxa per treatment, or species dominance (Niemi et al., 1999). In the same study, impacts to emergent insects were monitored. Total insect richness in *B. thuringiensis, israelensis*-treated sites was reduced by 33 to 66% compared with control sites during the 1992 and 1993 seasons (Niemi et al., 1999).

A 3.2-km stretch on the North Branch of the Susquehanna River in Pennsylvania was treated with an aqueous *B. thuringiensis, israelensis* suspension (1200 ITU/mg or 1.28 $\times 10^9$ ITU/L, VectoBac AS/12AS) sprayed from a helicopter approximately 100 m upstream from the sampling area. Most *B. thuringiensis, israelensis* spores were transported through the treatment reach (i.e., 1.5 km of river) immediately following application. Drift of blackfly larvae, the target pest, increased post-treatment but nontarget species drift did not. Densities of black fly larvae decreased to near zero post-application, but most non-target species were unaffected (Jackson et al., 1994).
In estuarine species, the NOEL for grass shrimp was greater than $2.0 \times 10^{10}$ cfu/g food which is classified as practically nontoxic (USEPA, 1998). An estuarine copepod had a NOEL of 50 mg/kg sediment (USEPA, 1998a). Estuarine brown grass shrimp (*Leander tenuicornis*) had an LC$_{50}$ of $60.9 \times 10^6$ ITU equivalent to an estimated field concentration of $0.346 \times 10^6$ ITU in a 6-inch deep pool. The LC$_{50}$ is 176 times the estimated field concentration following application at 0.26 lbs/acre (active ingredient: 1200 ITU/mg) (Brown et al., 1996).

*B. thuringiensis, israelensis* applied at 302.6 g/ha as Vectobac caused an initial reduction in numbers of amphipods following a direct application to the water, but the numbers were no longer different in the following summer. These potential reductions in aquatic nontarget populations did not suggest any trends or persistent deleterious biological effects following a single application (Davis and Peterson, 2008). Another study found that environmental factors were very important in determining arthropod numbers in brackish pools. Concentrations of *B. thuringiensis, israelensis* (ca. $500 \times 10^6$ ITU/ha) following applications of Vectobac 12AS (11.6 percent *B. thuringiensis, israelensis* at 1200 ITU/mg) and Vectobac WG (37.4 *B. thuringiensis, israelensis* at 3000 ITU/mg) had less influence on any difference between control and treated pools than communities and temporal fluctuations in numbers of arthropod taxa within a given zone (Caquet et al., 2011).

*Strain kurstaki*

Concentrations of 4.3, 43, and 430 IU/mL of ThuricideB 32 LV containing $8.45 \times 10^6$ IU/L of *B. thuringiensis, kurstaki* simulated concentrations following applications made for blackfly larva control. The only species tested that was affected was black fly larvae. Caddisfly larvae, chironomid larvae, stonefly larvae, and mayfly nymphs, were all reported to be unaffected. Large amounts of control mortality in many of the trials raise some doubts regarding the validity of the test results and conclusions (Eidt, 1985).

The stream benthic community in mesocosms was evaluated for concentrations of $2.1 \times 10^4$ cfu/mL and $1.8 \times 10^8$ cfu/mL during application of Foray 48B® with a potency of $12.7 \times 10^6$ IU/L. No significant treatment effect was found for total benthic densities and number of taxa. There was no indication of more individuals leaving the treated sites as a result of applications of *B. thuringiensis, kurstaki* (Richardson and Perrin, 1994).

Various mayflies, stoneflies, and caddisflies were exposed to a maximum concentration of 600 IU/mL from Dipel 8AF with a potency of $16.9 \times 10^6$ IU/L. Treatments occurred in a flowing artificial trough in the laboratory. The LC$_{50}$ following 24 hours of exposure and 9 days of observation was greater than 600 IU/mL for all species (Kreutzweiser et al., 1992). In a field study, an application of Dipel® 64AF resulted in a nominal concentration of 200 IU/mL. This treatment caused a slight but significant increase in macroinvertebrate drift at the site closest to the application, but only during the application. There was no significant difference in abundance of total benthos between treated and reference sites before or after the application. The *B. thuringiensis, kurstaki* application did not affect the survival or growth of caged caddisfly nymphs (*Pycnopsyche guttifer*) (Kreutzweiser et al., 1994).
Conclusions

**Strain israelensis**

Sufficient ecotoxicology data was available for all taxonomic groups for *B. thuringiensis, israelensis*, except for reptiles and soil-dwelling invertebrates. Acute toxicity test results indicate *B. thuringiensis, israelensis* can be classified as practically nontoxic to birds and mammals. The low toxicity of *B. thuringiensis, israelensis* for birds and mammals suggests that reptiles and terrestrial-phase amphibians are also unlikely to experience adverse effects following applications of *B. thuringiensis, israelensis* as a pesticide in cannabis cultivation.

A single toxicity test for pollinators for *B. thuringiensis, israelensis* was available, and no toxicity classification provided. As a precaution, *B. thuringiensis, israelensis* should not be applied when pollinators are present or allowed to drift to flowering plants attractive to pollinators.

*B. thuringiensis, israelensis* is classified as slightly toxic to aquatic-phase amphibians and slightly to practically nontoxic to fish, but is moderately toxic to at least some species of aquatic invertebrates. Therefore, *B. thuringiensis, israelensis* should only be applied in such a manner as to prevent drift to surface water or otherwise prevent *B. thuringiensis, israelensis* moving to surface waters.

**Strain kurstaki**

Sufficient ecotoxicology data was available for all taxonomic groups for *B. thuringiensis, kurstaki*, except for mammals, amphibians, and reptiles. Acute toxicity test results indicate *B. thuringiensis, kurstaki* can be classified as practically nontoxic to birds. Although no other toxicity data were identified, the low toxicity of *B. thuringiensis, kurstaki* for birds suggests that all terrestrial vertebrates are unlikely to experience adverse effects following applications of *B. thuringiensis, kurstaki* as a pesticide in cannabis cultivation.

Toxicity tests for pollinators for *B. thuringiensis, kurstaki* indicate *B. thuringiensis, kurstaki* is practically nontoxic to pollinators. Therefore, the potential for adverse effects on pollinators or other listed insects following applications of *B. thuringiensis kurstaki* as a pesticide in cannabis cultivation is low.

*B. thuringiensis, kurstaki* has low toxicity to fish, but can cause temporary adverse impact to some species of aquatic invertebrates. Therefore, *B. thuringiensis, kurstaki* should only be applied in such a manner as to prevent drift to surface water or otherwise prevent *B. thuringiensis, kurstaki* moving to surface waters.

**References**


evaluation of a new formulation of *Bacillus thuringiensis* var *israelensis* SH-14. Regulatory Toxicology and Pharmacology 68: 147-151.


Environmental Fate & Toxicology Summary  
*Beauveria bassiana*  
(CAS # 63428-82-0)

**Introduction**

*Beauveria bassiana*, herein referred to as *B. bassiana*, is a species of fungus that acts as a pathogen specific to insects. Following contact, *B. bassiana* germinates on the insect’s exoskeleton and secretes enzymes that deteriorate the insect’s outer coat and interior integrity, ultimately resulting in death (USEPA, 1999a,b; 2010). *B. bassiana* is typically applied to outdoor and greenhouse food and nonfood crops through a variety of equipment, including but not limited to hand and ground equipment (USEPA, 1999a,b; 2015). For this ingredient summary, *B. bassiana* includes the strains GHA, ATCC 74040, and ANT-03. Although *B. bassiana* strains 447 and HF23 also are registered as insecticides, these strains are not currently registered for any food uses; therefore, they may not be applied to cannabis (USEPA, 2010). *B. bassiana* strain ATCC 74040 has been registered as a biopesticide for use on food commodities since 1999 and *B. bassiana* strain GHA has been registered for use on growing agricultural crops since 1995 (USEPA, 1999a,b; 2010). *B. bassiana* strain ANT-03 was first registered for use on food crops in 2014 (USEPA, 2015).

**Example of Formulated Products**

Botanigard® ES, Naturalis L®

*Reference to any specific product is for informational purposes only and does not constitute an endorsement or recommendation. Always read and follow label directions. If a label is unavailable, follow guidance in the product’s Safety Data Sheet (SDS) and/or in one or more of the following DPR documents: Pesticide Safety Information Series (PSIS); Compliance Assistance Booklets for Employers; and Pesticide Use Compliance Guide for Employers and Businesses.

**Commonly Targeted Pest:**

Whiteflies, aphids, weevils, thrips, leafhoppers, general leaf-feeding insects (USEPA, 2000a; 2010; DPR, 2017)

**Environmental Fate**

*B. bassiana* is a fungus ubiquitous in soil (USEPA, 1999a,b; 2010; 2015). *B. bassiana* does not proliferate in aquatic habitats, degrades readily in sunlight, and is not expected to persist on foliar surfaces (USEPA, 2010).
Human Risk

Toxicity

Acute toxicity endpoints can be categorized from lowest toxicity to highest toxicity as shown in the table below. Throughout the discussion of human toxicity, these classifications will be referenced.

### Acute Toxicity Categories for Human

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Acute Oral LD$_{50}$</th>
<th>Acute Inhalation LC$_{50}$</th>
<th>Acute Dermal LD$_{50}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (highest toxicity)</td>
<td>≤ 50 mg/kg</td>
<td>≤ 0.2 mg/L</td>
<td>≤ 200 mg/kg</td>
</tr>
<tr>
<td>II (moderately toxic)</td>
<td>&gt; 50 - 500 mg/kg</td>
<td>&gt; 0.2 - 2 mg/L</td>
<td>&gt; 200 - 2000 mg/kg</td>
</tr>
<tr>
<td>III (slightly toxic)</td>
<td>&gt; 500 - 5,000 mg/kg</td>
<td>&gt; 2 - 20 mg/L</td>
<td>&gt; 2000 - 20,000 mg/kg</td>
</tr>
<tr>
<td>IV (lowest toxicity)</td>
<td>&gt; 5000 mg/kg</td>
<td>&gt; 20 mg/L</td>
<td>&gt; 20,000 mg/kg</td>
</tr>
</tbody>
</table>

Reference: 40 CFR 156.62

1. LD$_{50}$ is the median lethal dose at which 50% of the test animals die from the treatment
2. LC$_{50}$ is the median lethal concentration at which 50% of the test animals die from the treatment

*B. bassiana* is commonly found throughout the environment, has been used safely as a pesticide for over a century, and is not known to be pathogenic or infective to humans (USEPA, 1999a,b; 2010; 2015). It is categorized in Toxicity Category III or IV (slightly toxic to lowest toxicity) for the acute oral pathway based on studies that investigated oral exposure up to $1.3 \times 10^9$ colony forming units (cfu) for strain ANT-03 in rats. No adverse effects, infectivity, or pathogenicity was observed (USEPA, 2015). *B. bassiana* is categorized as a Toxicity Category III or IV (slightly toxic to lowest toxicity) for the acute inhalation pathway in rats based on studies that investigated up to $2.5 \times 10^9$ cfu intratracheally. No adverse effects, infectivity, or pathogenicity were observed (USEPA, 2010; 2015; USEPA, 2010). Lung inflammation was noted in rats treated with one formulated product containing the active ingredient *B. bassiana*; however, the pulmonary effects cleared within two weeks (USEPA, 2010). *B. bassiana* is categorized in Toxicity Category III or IV (slightly toxic to lowest toxicity) for the acute dermal pathway based on studies that investigated doses up to $1.2 \times 10^{11}$ conidia (asexually produced fungal spores)/g in rats. No adverse effects, infectivity, or pathogenicity were observed. Slight dermal irritation, eye irritation, and dermal sensitization has been reported for some strains of *B. bassiana*. Registration for *B. bassiana* did not require additional acute, subchronic, chronic, and oncogenic toxicity data due to the low reported acute toxicity (USEPA, 2010; 2015). The No Observed Adverse Effect Level (NOAEL) through the acute, dermal pathway is estimated to be greater than 5,050 mg/kg body weight for *B. bassiana* strain ANT-03 (USEPA, 2015). No other acute,
subchronic, or chronic endpoints have been established for any exposure pathway considered (USEPA, 2010). *B. bassiana* is not considered toxic to humans, animals, or plants; therefore, no adverse effects to human health from the use of *B. bassiana* as a pesticide are anticipated.

Two human incidents have been reported for formulated products containing the active ingredient *B. bassiana*. The strain(s) associated with these effects were not disclosed. The effects reported were edema and a rash on the worker’s elbow. The occupational worker recovered (USEPA, 2010).

**Genotoxicity:** No information was available regarding the genotoxic potential of *B. bassiana*.

**Mutagenicity:** No information was available regarding the mutagenic potential of *B. bassiana*.

**Neurotoxicity:** *B. bassiana* is not known to have a neurotoxic mechanism of action (USEPA, 1999a,b). Therefore, adverse neurotoxic effects are not anticipated.

**Reproductive/Developmental Toxicity:** The 1996 Food Quality Protection Act (FQPA) requires the United States Environmental Protection Agency (USEPA) screen pesticide chemicals for their potential to cause endocrine disruption through a two-tiered approach. The USEPA program that addresses the screening of pesticides for endocrine disruption is known as the Endocrine Disruption Screening Program (EDSP) (USEPA, 2016). The EDSP investigated the potential for *B. bassiana* to interfere with the endocrine system. Although no specific tests were conducted to determine its potential as an endocrine disruptor, the EDSP concluded it is not a priority ingredient to evaluate for estrogenic or endocrine effects (USEPA, 2010; 2015). No strain of *B. bassiana* is listed as a known developmental toxicant on the Proposition 65 list (OEHHA, 2016).

**Dermal Absorption Factor (DAF):** No DAF was available for *B. bassiana*.

**Carcinogenicity:** No information was available regarding the carcinogenic potential of *B. bassiana*. No strain of *B. bassiana* is listed as a suspected carcinogen by the World Health Organization nor listed as a carcinogen on Proposition 65 (OEHHA, 2016; WHO, 2016).

**Skin, Eye, or Lung Irritation:** The *B. bassiana* strains discussed in this report are slightly to non-irritating for dermal, eye, and respiratory irritation (USEPA, 2000a,b; 2015).

**Exposure**

Exposure pathways considered were ingestion, inhalation, and dermal absorption. Contact with pesticide residues may occur during pesticide mixing, loading or application or when handling treated cannabis crop. Although cultivators are not anticipated to intentionally ingest pesticide residues, incidental hand-to-mouth ingestion of pesticide residues may occur if hands are not properly washed and proper care is not taken to avoid unintentional transfer of pesticide residues on hands to mouth. Inhalation exposure to aerosolized pesticide derived from the use of application equipment, such as backpack sprayers, is reduced when the required Personal Protection Equipment (e.g., National Institute for Occupational Safety and Health [NIOSH] approved respirators) is utilized in accordance with label requirements (USEPA, 2000a; 2010;
There is potential for dermal and eye contact to \textit{B. bassiana} in occupational settings. However, the use of long sleeve shirts and pants, shoes, and socks in compliance with the label minimizes potential dermal exposure associated with \textit{B. bassiana} (USEPA, 2010; 2015). Although not explicitly required, use of eye protection such as a safety glasses and goggles are recommended. Many registered products suggest a four hour Restricted-entry Interval (REI) period and a Restricted-Time Interval (RTI) of five to seven days between each application (USEPA, 2010; 2015).

**Conclusion**

Based on available toxicity data and its natural ubiquity in the environment, \textit{B. bassiana} is not anticipated to result in adverse effects to human health for any exposure pathway when used as a pesticide. There is potential for human contact with \textit{B. bassiana} when applied as a pesticide. It is recommended that cultivators use safety glasses or goggles to ameliorate any slight eye irritation that may occur when applying \textit{B. bassiana}. However, the low application rates and use of required PPE, RTIs, and REIs reduce exposure through dermal, inhalation, and exposure pathways. Due to the low mammalian toxicity and limited exposure, \textit{B. bassiana} is not anticipated to result in unacceptable risk to cultivators when applied as a pesticide in cannabis cultivation.

Cultivators applying pesticides should always read and follow the label, SDS and relevant DPR documents including the DPR Pesticide Safety Information Series (PSIS) (DPR, 2015), DPR Compliance Assistant Booklet for Employers (DPR, 2010a) and the DPR Pesticide Use Compliance Guide for Employers and Businesses (DPR, 2010b).

**Ecological Risk**

Ecotoxicity data for \textit{B. bassiana} is lacking or at least very limited for all groups of ecological receptors. Because of the limited amount of information, the ecotoxicity results for any strain of \textit{B. bassiana} are reported when available.

**Birds**

American kestrels (\textit{Falco sparverius}) nestlings were given a single oral dose of 1 mL/kg body weight of a solution containing $5 \times 10^9$ spores/mL of an unstated strain of \textit{B. bassiana}. Nestlings were dosed when 8 - 16 days old. No young kestrels died as nestlings or as fledglings with radio transmitters. No pathologies or other apparent effects were noted (Althouse et al., 1997).

When 4 and 9 days old, ring-necked pheasant (\textit{Phasianus colchicus}) chicks were fed fourth instar grasshopper (\textit{Melanoplus sanguinipes}) nymphs infected with 1–1.5 x $10^5$ viable conidia (asexually produced fungal spores) per insect. The \textit{B. bassiana} used in the study was isolate GHA (= isolate number 726). No mortality occurred, and there were no clinical signs or effects on body weight during the 16-day observation period (Johnson et al., 2002).
Mammals (see Toxicity section under Human Risk for additional information)

Three acute oral toxicity tests were conducted for three *B. bassiana* strains with rats. *B. bassiana* Strain GHA dosed at $1 \times 10^8$ cfu/animal was not pathogenic, infective, or toxic (USEPA, 2000a). *B. bassiana* Strain ATCC 74040 did not cause any mortality or overt toxic effects when dosed at $1.9 \times 10^8$ cfu/animal (USEPA, 2000b). *B. bassiana* strain ANT-03 caused no treatment-related deaths, clinical signs, necropsy findings, or changes in body weight or body weight gain when dosed at $1.3 \times 10^9$ cfu/animal (USEPA, 2015).

Reptiles

No relevant toxicity data were available for *B. bassiana* for reptiles.

Amphibians

No relevant toxicity data were available for *B. bassiana* for amphibians.

Pollinators

The toxicity to insect pollinators differs among strains of *B. bassiana*. Alfalfa leaf-cutting bee (*Megachile rotundata*) were exposed to *B. bassiana* (Bals.) Vuillemin (SRS-Bb-86-5) and a *B. bassiana* from Mycotech Bioproducts (Butte, MT). Larvae received *B. bassiana* spores ($10^3$ or $10^5$) as a dietary exposure in 0.001 mL sterile distilled water pipetted onto the surface of the pollen/nectar food provision. Prepupae received topical doses of *B. bassiana* spores ($10^2$, $10^4$, or $10^6$) in 0.001 mL 0.02 percent sterile Tween 80 pipetted onto the dorsal surface of the prepupal cuticle. Exposure to *B. bassiana* of either strain had no effect on larval development. Mortality in prepupae treated with spores of *B. bassiana* (SRS-Bb-86-5) at the highest dose ($10^6$) was 56.0 percent at day 7 and 96.0 percent at day 10. *B. bassiana* (SRS-Bb-86-5) was pathogenic to alfalfa leaf-cutting bee prepupae at all doses tested, and the Mycotech preparation of *B. bassiana* was pathogenic at the two highest doses tested. Mortality due to *B. bassiana* infection occurred 6-14 days after treatment (Goerzen et al., 1990).

Newly emerged worker bumblebees (*Bombus terrestris*) were exposed topically 0.05 mL of a solution containing $2.5 \times 10^{10}$ cfu/L Botanigard® *B. bassiana* GHA. Bumblebees were exposed orally to sugar solution containing $2.5 \times 10^{10}$ cfu/L or pollen sprayed until saturation with a spray solution containing $2.5 \times 10^{10}$ cfu/L. No mortality occurred after 72 hours. However, after 11 weeks, 92 percent of the workers were killed following topical treatment. In addition, when the concentration was reduced to 1/2, 1/5 and 1/10 of $2.5 \times 10^{10}$ cfu/L, the mean worker mortality still reached 59 percent, 41 percent, and 46 percent, respectively, after 11 weeks. Mortality also occurred when exposed to treated sugar water or pollen, but to a lesser extent than for topical treatment (Mommaerts et al., 2009).

Another species of bumblebee (*Bombus impatiens*) was treated topically one time with 0.05 mL of solutions at 0.1X, 0.2X, 0.5X, 1X, and 2X recommended field concentration *B. bassiana* (Botanigard® ES) of $2.33 \times 10^{10}$ cfu/L or orally to sugar solutions containing the same concentrations for 30 days. In contrast to the impacts to *Bombus terrestris*, no effects occurred
after topical treatment at any dose after 60 days following treatment, and no effect occurred after 30 days of feeding (Ramanaidu and Cutler, 2012).

**Soil-Dwelling Invertebrates**

No relevant toxicity data were available for *B. bassiana* for earthworms or other soil-dwelling invertebrates.

**Fish**

Inland silverside fish (*Menidia beryllina*) were exposed to 0.1, 1, and 10 mg of conidiospores/L *B. bassiana* (UF1 5789) for 7 - 9 days. The results among trials were variable, so setting a No Observed Effective Concentration (NOEC is not possible), but it appears possible that *B. bassiana* spores were harmful to fish embryos (Genthner and Middaugh, 1992). In another study, inland silverside fish were exposed to concentrations ranging from 7.2 x 10^3 to 1.0 x 10^6 conidiospore *B. bassiana* (GH). Conidiospores, as received from the producer, had little adverse effects on the embryos or larval fish. Conidiospores produced by passage of these original spores through a corn earworm, with subsequent growth of *B. bassiana* (GH) conidiospores on glucose-yeast extract-basal salts agar medium plates, caused extensive teratogenic responses in both the embryos and hatched larvae at densities of 7.1 x 10^3 and 7.1 x 10^4 spores/mL. Adverse responses to *B. bassiana* (GH) in inland silverside fish embryos and larvae included rupture of the chorion, hyphal growth on the chorion and mandibles of larvae, vertebral abnormalities, and teratogenic responses in embryos and hatched larvae (Middaugh and Genthner, 1994).

**Aquatic Invertebrates**

The estuarine mysid (*Mysidopsis bahia*) exposed to *B. bassiana* (UF1 5789) spore densities of 2.0 x 10^5, 4.3 x 10^5, 7.2 x 10^5, 1.2 x 10^6, and 2 x 10^6 per mL experienced mortality at the highest concentration. That mortality was considered likely due to the high particulate density since there was high mortality when mysids were exposed to similar concentrations of heat-killed spores. Beauvericin, a cyclic depsipeptide produced by some strains of *B. bassiana*, was toxic at an LC50 of 0.56 ppm. The toxicity of beauvericin persisted in sterile seawater for at least 3 weeks but not after 8 weeks (Genthner et al., 1994).

**Conclusions**

The ecotoxicology data for many taxonomic groups for *B. bassiana* are limited or nonexistent. The complete lack of data for amphibians, reptiles, and soil-dwelling invertebrates precludes a conclusive determination of risk potential for these groups. However, the low potential for risk in other terrestrial vertebrate taxonomic groups suggests there is not likely a high potential for adverse effects in terrestrial-phase amphibians and reptiles.

The two studies available for birds suggest *B. bassiana* has a low potential to cause adverse effects to birds. The acute toxicity tests with rats, also suggest *B. bassiana* has a low potential to cause adverse effect to mammals.
Different strains of *B. bassiana* demonstrate differing levels of toxicity to pollinating insects. The species evaluated also responded differently following exposure to *B. bassiana*. Until the response of more pollinator species to the different strains of *B. bassiana* is better understood, applications of *B. bassiana* should not occur when pollinators are present or where pollinator attractive foods (i.e., pollen and nectar) are present.

The available aquatic toxicity data are limited, but the available information suggests that *B. bassiana* could cause adverse effects to aquatic species. Therefore, applications of *B. bassiana* should only occur where it is possible to prevent movement or drift to surface water.

**References**


Goerzen, D.W., M.A. Erlandson, and K.C. Moore. 1990. Effect of two insect viruses and two entomopathogenic fungi on larval and pupal development in the alfalfa leaf-cutting bee,


Environmental Fate & Toxicology Summary

*Burkholderia spp. strain A396*

(CAS # N/A)

**Introduction**

*Burkholderia spp.* strain A396 is a naturally occurring bacterium and biological insecticide targeted at beetles, whiteflies, aphids, mites, and nematodes (USEPA, 2014a). Herein, *Burkholderia* refers to heat-killed cells of *Burkholderia spp.* strain A396 and its spent fermentation media. *Burkholderia* controls pests through the enzymatic degradation of exoskeletal structures and interference with the molting process, leading to mortality through contact and/or ingestion (Marrone Bio Innovations, 2014). *Burkholderia* is applied primarily by applicators to cannabis as a foliar spray through ground and chemigation equipment (USEPA, 2014a). Products containing *Burkholderia*, such as Venerate, are registered for application to food crops, ornamentals, turf, and to seeds, as a seed treatment to control as an insecticide and acaricide (USEPA, 2014b). These products are intended for use in field applications, free fruit, nut crops, ornamental shade tree, forestry trees, tree farms and plantations, turf grown for seed, and on sod farms and ornamental bedding plants (USEPA, 2014a).

**Example of Formulated Products**

MBI-206 EP (Venerate™), Venerate XC, Majestene

*Reference to any specific product is for informational purposes only and does not constitute an endorsement or recommendation. Always read and follow label directions. If a label is unavailable, follow guidance in the product’s Safety Data Sheet (SDS) and/or in one or more of the following DPR documents: Pesticide Safety Information Series (PSIS); Compliance Assistance Booklets for Employers; and Pesticide Use Compliance Guide for Employers and Businesses.*

**Commonly Targeted Pest:**

Beetles, whiteflies, aphids, mites, and nematodes (USEPA, 2014a).

**Environmental Fate**

Environmental fate data for *Burkholderia* are limited. However, *Burkholderia* is not expected to be found in groundwater since, like other microorganisms, the microbial pesticide would likely be filtered out by the particulate nature of many soil types (USEPA, 2014a). *Burkholderia spp.* strain A396 is a naturally occurring soil bacterium that is ubiquitous in the environment (USEPA, 2014a).

No available data was found regarding the volatility and solubility of *Burkholderia*.

**Human Risk**

**Toxicity**
Due to the heat-killing processing of *Burkholderia*, and the batch verification process through enrichment, infection by *Burkholderia* is not anticipated through the oral, pulmonary, and injection when dosed acutely, and *Burkholderia* was classified as non-pathogenic (USEPA, 2014a). *Burkholderia* is categorized in Toxicity Category IV (lowest toxicity) for the acute oral pathway. 14 days after a single oral dose of 5,000 mg/kg, no deaths or abnormalities were expressed by the 8-week old female Sprague-Dawley albino rats (USEPA, 2014a). Based on the results of this study, heat-killed *Burkholderia* does not appear to be toxic and/or pathogenic at the highest dose tested. A study for the acute inhalation toxicity pathway investigated doses up to 5.22 mg/L (USEPA, 2014a). Ten Sprague-Dawley rats were dosed once through the inhalation route. None of the rats died after 14 days, and the researchers observed no abnormalities during necropsies. *Burkholderia* was classified as Toxicity Category IV (lowest toxicity) for inhalation, and no NOAEL was found at the highest dose tested. *Burkholderia* is categorized as Toxicity Category IV (lowest toxicity) for the acute dermal pathway based on studies that investigated doses of up to 4.97 mg/L or 5050 mg/kg body weight (USEPA, 2014a). The ten 8-week old Sprague-Dawley rats were observed one hour after exposure, and at periodic intervals for 14 days (USEPA, 2014a). The researchers did not find signs of dermal irritation, and observed no abnormalities after the rats were sacrificed and dissected. *Burkholderia* was categorized as Toxicity Category IV (lowest toxicity) for the dermal pathway, and no No Observed Adverse Effect Level (NOAEL) was found at the highest dose tested. No hypersensitivity incidents occurred during research, development, or testing of *Burkholderia* (USEPA, 2014a). No adverse effects, infectivity, pathogenicity, or No Observed Adverse Effect Levels (NOAELs) were observed for any exposure pathway or duration considered (USEPA, 2014a). The USEPA determined that *Burkholderia* is non-pathogenic, and non-irritating, and of a low toxicological profile (USEPA, 2014a).

During 1992-2014, no agricultural incidents have been reported in California regarding exposure to *Burkholderia* (DPR, 2017).

**Genotoxicity:** No information was available regarding the genotoxic potential of *Burkholderia*.

**Mutagenicity:** No information was available regarding the mutagenic effects of *Burkholderia*.

**Neurotoxicity:** No evidence was located suggesting that *Burkholderia* used as pesticides has a neurotoxic mode of action or neurotoxic potential in mammals.

**Reproductive/Developmental Toxicity:** Reproductive and developmental studies were not attempted prior to *Burkholderia*’s registration as a pesticide because of the lack of observed acute toxicity and pathogenic effects during the initial acute toxicity screening (USEPA, 2014a). The potential for endocrine disruption is investigated by the USEPA through the Food Quality Protection Act (FQPA) (USEPA, 2014a). The USEPA concluded *Burkholderia* is unlikely to produce any adverse effect in humans similar to an effect produced by a naturally occurring estrogenic substance (USEPA, 2014a). *Burkholderia* is not listed as a suspected developmental toxicant on Proposition 65 (OEHHA, 2017). No additional evidence was located suggesting that *Burkholderia* used as a pesticide is a reproductive or developmental toxicant.

**Dermal Absorption Factor (DAF):** No DAF was available for *Burkholderia*.
Carcinogenicity: *Burkholderia* was not found to be a carcinogenic by the World Health Organization, and is not listed as a carcinogen on Proposition 65 (OEHHA, 2017; WHO, 2016). No additional information was available regarding the carcinogenic potential of *Burkholderia*.

Skin, Eye, or Lung Irritation: Although no information was available on *Burkholderia* specifically regarding eye irritation, an end-use product of *Burkholderia*, Venerate, was found to be non-irritating to the eyes of rabbits, and is classified as Toxicity Category IV for Acute Eye Irritation (USEPA, 2014a). In an acute dermal irritation study on rabbits, researchers applied 0.5 mL of Venerate to exposed skin, and covered the exposed skin for 4 hours (USEPA, 2014a). Venerate was rated with a maximum dermal irritation score of 0.0, and the EPA classified the primary dermal irritation as Toxicity Category IV. The end-use product (EP) test substance was slightly irritating to the skin of guinea pigs during the first hour of exposure (Toxicity Category IV), however it is not a skin sensitizer, and is rated as non-irritating to the skin (USEPA, 2014a). Additional information regarding lung irritation was not found.

Exposure

Exposure pathways considered were ingestion, inhalation, and dermal absorption (USEPA, 2014a). Contact with pesticide residues may occur during pesticide mixing, loading or application or when handling treated cannabis crop. Although cultivators are not anticipated to intentionally ingest pesticide residues, incidental hand-to-mouth ingestion of pesticide residues may occur if hands are not properly washed and proper care is not taken to avoid unintentional transfer of pesticide residues on hands to mouth. Despite the low toxicity of *Burkholderia*, the EPA has proposed requiring baseline personal protective equipment (PPE) for handlers that may be subjected to prolonged or repeated exposure due to the nature of their occupation (USEPA, 2014a). There is potential for dermal and inhalation to *Burkholderia* in occupational settings. However, the use of recommended Personal Protective Equipment (PPE) in compliance with the label decreases the potential for dermal and inhalation exposure (USEPA, 2017a). The recommended PPE includes: long-sleeved shirts, long pants, waterproof gloves, socks, shoes, and dust/mist filtering respirating National Institute for Occupational Safety and Health (NIOSH) standards of at least N-95, R-95, or P-95.

Residues of *Burkholderia* are not expected to be found in groundwater since, like other microorganisms, the microbial pesticide would likely be filtered out by the particulate nature of many soil types (USEPA, 2014a).

*Burkholderia* and spent fermentation media is ubiquitous and naturally occurring in the environment (USEPA, 2014a). Based on this observation, the EPA determined that non-occupational exposure to the bacterium is likely already occurring, concluding that additional exposure to the microorganism due to pesticide applications appears to be negligible.

Conclusion

Based on available toxicity data and limited occupational exposure, *Burkholderia* is not anticipated to result in adverse effects to human health for any exposure pathway. No NOAELs
were observed for any exposure pathway or duration considered. There is potential for human contact with *Burkholderia* when applied as a pesticide; however, this exposure is significantly reduced when personal protective equipment is used in accordance with the label. Due to the low mammalian toxicity, non-pathogenic nature, and natural presence in the environment, *Burkholderia* is not anticipated to result in unacceptable risk to cultivators when applied as a pesticide in cannabis cultivation.

Cultivators applying pesticides should always read and follow the label, SDS and relevant DPR documents including the DPR Pesticide Safety Information Series (PSIS) (DPR, 2015), DPR Compliance Assistant Booklet for Employers (DPR, 2013) and the DPR Pesticide Use Compliance Guide for Employers and Businesses (DPR, 2010).

**Ecological Risk**

Toxicity data for heat-killed *Burkholderia* spp. strain A396 are not available for all groups considered. Acute ecotoxicity endpoints can be categorized from practically nontoxic to very highly toxic as shown in the following (see Ecotoxicity Classification Table below). However, microbial pesticides are not always evaluated using the standard ecotoxicity classification categories.

### Ecotoxicity Classification Table

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Avian: Acute Oral LD₅₀ (mg/kg)</th>
<th>Aquatic Organisms: Acute LC₅₀ (ppm or mg/L)</th>
<th>Wild Mammals: Acute Oral LD₅₀ (mg/kg)</th>
<th>Non-Target Insects: Acute LD₅₀ (µg/bee)</th>
</tr>
</thead>
<tbody>
<tr>
<td>very highly toxic</td>
<td>&lt;10</td>
<td>&lt;0.1</td>
<td>&lt;10</td>
<td></td>
</tr>
<tr>
<td>highly toxic</td>
<td>10-50</td>
<td>0.1 - 1</td>
<td>10 - 50</td>
<td>&lt;2</td>
</tr>
<tr>
<td>moderately toxic</td>
<td>51-500</td>
<td>&gt;1 - 10</td>
<td>51 - 500</td>
<td>2 - 11</td>
</tr>
<tr>
<td>slightly toxic</td>
<td>501-2000</td>
<td>&gt;10 - 100</td>
<td>501 - 2000</td>
<td></td>
</tr>
<tr>
<td>practically nontoxic</td>
<td>&gt;2000</td>
<td>&gt;100</td>
<td>&gt;2000</td>
<td>&gt;11</td>
</tr>
</tbody>
</table>

Taken from USEPA, 2012

1. LD₅₀ is the median lethal dose at which 50% of the test animals die from the treatment
2. LC₅₀ is the median lethal concentration at which 50% of the test animals die from the treatment

**Birds**

No relevant toxicity data were publicly available for heat-killed *Burkholderia* spp. strain A396 for birds, but USEPA (2014a) concluded from studies submitted to the agency that adverse effects would not be expected.

**Mammals** (see Toxicity section under Human Risk for additional information)

*Burkholderia cepacia* complex is known to produce skin infections in dogs and other mammal species (Banovic et al., 2015), and *Burkholderia pseudomallei* is known to cause melioidosis with symptoms differing among species and where the infection manifests (Leakey et al., 1998). No acute LD₅₀ value is available for mammals, but in a laboratory test where rats were fed up to
5000 mg/kg of a formulation containing heat-killed *Burkholderia* spp. strain A396, no deaths or abnormalities were observed (USEPA, 2014a). Therefore, heat-killed *Burkholderia* spp. strain A396 can be considered practically nontoxic in mammals.

**Reptiles**

No relevant toxicity data were available for heat-killed *Burkholderia* spp. strain A396 for reptiles.

**Amphibians**

No relevant toxicity data were available for heat-killed *Burkholderia* spp. strain A396 for amphibians.

**Pollinators**

*Burkholderia cepacia* was identified from the gut of a variety of bee and bumble bee species. *Burkholderia cepacia* is not thought to be harmful to bees, and could possibly be essential for processing pollen as a food source (Martinson *et al*., 2011). It is possible that *B. cepacia* is protective for bees by controlling the fungus that causes chalkbrood (Youssef, 1995). Although *B. cepacia* appears either innocuous or possibly beneficial for honey bees and other insects, the USEPA did not have sufficient information to determine that heat-killed *Burkholderia* spp. strain A396 was not harmful for honey bees and other beneficial insects (USEPA, 2014a).

**Soil-Dwelling Invertebrates**

No relevant toxicity data were available for heat-killed *Burkholderia* spp. strain A396 for soil-dwelling invertebrates.

**Fish**

No relevant toxicity data were publicly available for heat-killed *Burkholderia* spp. strain A396 for fish, but USEPA (2014a) concluded from studies submitted to the agency that adverse effects would not be expected.

**Aquatic Invertebrates**

Exposure of brine shrimp (*Artemia* sp.) to *Burkholderia vietnamiensis* led to decreased survival of the brine shrimp (Lee *et al*., 2014). Although no relevant toxicity data were publicly available for heat-killed *Burkholderia* spp. strain A396 for aquatic invertebrates, USEPA (2014a) concluded from studies submitted to the agency that adverse effects would not be expected.

**Conclusions**

No toxicity data were available for heat-killed *Burkholderia* spp. strain A396 for amphibians, reptiles, and soil-dwelling invertebrates. Additionally, no publicly available toxicity data were
available for heat-killed *Burkholderia* spp. strain A396 for birds, fish or aquatic invertebrates, but USEPA concluded, based on studies submitted to the agency, that adverse effects were not anticipated. Acute toxicity test results indicate heat-killed *Burkholderia* spp. strain A396 was practically nontoxic to mammals. Although some studies have found that various species of *Burkholderia* bacteria could be beneficial for bees, the USEPA could not conclude, from studies submitted to the agency, that heat-killed *Burkholderia* spp. strain A396 would not be harmful to pollinators and other beneficial insects. The complete lack of toxicity data for many ecological receptors, and the lack of publicly available data for birds, fish or aquatic invertebrates makes it difficult to reach a definitive conclusion on potential for harmful effects following the use of heat-killed *Burkholderia* spp. strain A396 as a pesticide in cannabis cultivation. Care should be demonstrated when using heat-killed *Burkholderia* spp. strain A396 as a pesticide in outdoor cannabis cultivation.

**References**


Environmental Fate & Toxicology Summary
Capsaicin
(CAS # 404-86-4)

Introduction

Capsaicin is the active ingredient in *Capsicum* red chili pepper, commonly utilized as both a food additive and a pesticide. As either a powder or a liquid, capsaicin is applied to terrestrial food and non-food crops for the purposes of repelling deer, rabbits, insects, birds, bears, and rodents (USEPA, 1992a,b). It is acts by deterring pests through dermal irritation, disruption of metabolism, membrane damage, and sensory neuron dysfunction (Gervais et al., 2008). Capsaicin has been registered as a pesticide since 1962 and was classified as a biochemical pesticide in 1991. As of 2016, there were 70 pesticide products registered for use in the United States containing the active ingredient capsaicin (USEPA, 2016). It may be applied to fruits, vegetables, flowers, ornamental plants, trees, lawns, and shrubbery (USEPA, 1992a).

Example of Formulated Products*

Captiva®, Miller Hot Sauce® Animal Repellent (in combination with other ingredients)

*Reference to any specific product is for informational purposes only and does not constitute an endorsement or recommendation. Always read and follow label directions. If a label is unavailable, follow guidance in the product’s Safety Data Sheet (SDS) and/or in one or more of the following DPR documents: Pesticide Safety Information Series (PSIS); Compliance Assistance Booklets for Employers; and Pesticide Use Compliance Guide for Employers and Businesses.

Commonly Targeted Pest:

Deer, rabbits, birds, bears, raccoons, skunks, squirrels, lepidopteran larvae, and voles (USEPA, 2016)

Environmental Fate

Capsaicin is considered a biochemical pesticide. For this reason, the United States Environmental Protection Agency (USEPA) waived environmental fate data requirements during the capsaicin registration process. Reports of capsaicin retention in soil varies from 7 days to greater than 28 days, with the presence of moisture (e.g., humidity and rainfall), affecting its persistence. It has a low vapor pressure and is resistant to photolysis and hydrolysis (Gervais et al., 2008).

Human Risk

Toxicity

Acute toxicity endpoints can be categorized from lowest toxicity to highest toxicity as shown in the table below. Throughout the discussion of human toxicity, these classifications will be referenced.
Acute Toxicity Categories for Human

<table>
<thead>
<tr>
<th></th>
<th>Acute Oral LD$_{50}^1$</th>
<th>Acute Inhalation LC$_{50}^2$</th>
<th>Acute Dermal LD$_{50}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity Category I (highest toxicity)</td>
<td>≤ 50 mg/kg</td>
<td>≤ 0.2 mg/L</td>
<td>≤ 200 mg/kg</td>
</tr>
<tr>
<td>Toxicity Category II (moderately toxic)</td>
<td>&gt;50 - 500 mg/kg</td>
<td>&gt;0.2 - 2 mg/L</td>
<td>&gt;200 - 2000 mg/kg</td>
</tr>
<tr>
<td>Toxicity Category III (slightly toxic)</td>
<td>&gt;500 - 5,000 mg/kg</td>
<td>&gt;2 - 20 mg/L</td>
<td>&gt;2000 - 20,000 mg/kg</td>
</tr>
<tr>
<td>Toxicity Category IV (lowest toxicity)</td>
<td>&gt;5000 mg/kg</td>
<td>&gt;20 mg/L</td>
<td>&gt;20,000 mg/kg</td>
</tr>
</tbody>
</table>

Reference: 40 CFR 156.62
1. LD$_{50}$ is the median lethal dose at which 50% of the test animals die from the treatment
2. LC$_{50}$ is the median lethal concentration at which 50% of the test animals die from the treatment

Capsaicin has a history of use as both a pesticide and a consumable. Laboratory studies in mice and rats have reported an acute oral LD$_{50}$ between 47.2 mg/kg to 2,500 mg/kg. The acute oral LD$_{50}$ has been estimated to be 500 mg/kg to 5,000 mg/kg in humans, indicating it is classified in Toxicity Category III (slightly toxic) (Gervais et al., 2008; Cayman Chemical Company, 2015; 40 CFR §156.62). No LC$_{50}$ for capsaicin via the inhalation route was available. The acute dermal LD$_{50}$ has been investigated up to 512 mg/kg in mice with no adverse effects reported (Gervais et al., 2008). Capsaicin is a skin, eye, and lung irritant (NIJ, 1995; Cayman Chemical Company, 2015). No other toxicological endpoints were available for any exposure route or duration considered. Additional toxicity information requirements for capsaicin as a pesticide were not required for registration due to capsaicin’s history of safe use as a food additive and low toxicity (USEPA, 1992a,b). Pesticide products containing capsaicin as the active ingredient are not expected to result in any serious or permanent adverse human health effects through the acute, subchronic, or chronic oral pathways.

Between 1992 and 2014, there were no human health incidents in California agricultural settings that implicated capsaicin as the definitive active ingredient responsible for the symptoms (DPR, 2016).

**Genotoxicity:** Although many studies have investigated the genotoxicity of capsaicin, no unequivocal conclusions have been reached regarding the genotoxic status of capsaicin (EMEA, 2009; Chanda et al., 2007; Watanabe, 2011; WHO, 2016).

**Mutagenicity:** No information was available regarding the mutagenic potential of capsaicin.

**Neurotoxicity:** Capsaicin is a neurotoxin known to cause burning, irritation, and discomfort to sensory neurons (USEPA, 1992b; HSDB, 2016; Gervais et al., 2008)
Reproductive/Developmental Toxicity: Studies investigating capsaicin as a developmental and/or irreversible reproductive toxicant are inconclusive. As such, there are insufficient data to conclude capsaicin is either teratogenic or a reproductive/developmental toxicant (Chanda et al., 2006; EMEA, 2009). Capsaicin is not identified as a developmental toxicant on the Proposition 65 list (OEHHA, 2016).

Dermal Absorption Factor (DAF): No DAF was available for capsaicin.

Carcinogenicity: Several studies have reported capsaicin to exhibit anti-carcinogenic effects due to its antioxidant properties (USEPA, 1992a,b; Gervais et al., 2008). Capsaicin is not identified as carcinogenic by either the World Health Organization or Proposition 65 (OEHHA, 2016; WHO, 2016).

Skin, Eye, or Lung Irritation: Excessive exposure to capsaicin may cause local temporary skin, eye, or lung irritation that clears in 2-21 days. There is no indication that these effects are permanent or prolonged (NIJ, 1995; Gervais et al., 2008; EMEA 2009).

Exposure

Exposure pathways considered were ingestion, inhalation, and dermal absorption. Contact with pesticide residues may occur during pesticide mixing, loading or application or when handling treated cannabis crop. Although cultivators are not anticipated to intentionally ingest pesticide, incidental hand-to-mouth ingestion of pesticide residues may occur if hands are not properly washed and proper care is not taken to avoid unintentional transfer of pesticide residues on hands to mouth. Aerosolized pesticide from the use of application equipment, such as backpack sprayers, may be present and as a result, there is a potential for inhalation exposure during application. Because of capsaicin’s low vapor pressure, post-application inhalation exposure is anticipated to be de minimis (Gervais et al., 2008). Although, there is the potential for dermal exposure to capsaicin, the toxic effects are reported to be temporary (NIJ, 1995; Gervais et al., 2008). It is suggested cultivators utilize long-sleeve shirts and pants, socks, close-toed shoes, and safety glasses/goggles when applying capsaicin as a pesticide to reduce dermal and ocular exposure. When personal protection equipment is utilized in compliance with the label, the exposure to capsaicin as a pesticide is significantly reduced.

Conclusion

Based on available toxicity data and the safe history of use as a food additive, use of capsaicin as a pesticide is not anticipated to have adverse effects on human health for any exposure pathway. No acute, subchronic, or chronic No Observed Adverse Effect Levels (NOAELs) have been established for any exposure pathway or duration considered. Although there is potential for human exposure to capsaicin when used as a pesticide, this is reduced when label directions, including use of personal protective equipment, are followed. It is recommended that cultivators utilized safety goggles or glasses when applying capsaicin as a pesticide due to its status as an eye irritant. Due to the lack of irreversible mammalian toxicity and history of safe use capsaicin...
is not anticipated to result in unacceptable risk to cultivators when applied as a pesticide in cannabis cultivation.

Cultivators applying pesticides should always read and follow the label, SDS and relevant DPR documents including the DPR Pesticide Safety Information Series (PSIS) (DPR, 2015), DPR Compliance Assistant Booklet for Employers (DPR, 2010a) and the DPR Pesticide Use Compliance Guide for Employers and Businesses (DPR, 2010b).

**Ecological Risk**

Acute ecotoxicity endpoints can be categorized from practically nontoxic to very highly toxic (see Ecotoxicity Classification Table below). Throughout the discussion of ecotoxicity results, these toxicity classes will be used.

### Acute Ecotoxicity Categories for Terrestrial and Aquatic Organisms.

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Avian: Acute Oral LD₅₀¹ (mg/kg)</th>
<th>Aquatic Organisms: Acute LC₅₀² (ppm or mg/L)</th>
<th>Wild Mammals: Acute Oral LD₅₀ (mg/kg)</th>
<th>Non-Target Insects: Acute LD₅₀ (µg/bee)</th>
</tr>
</thead>
<tbody>
<tr>
<td>very highly toxic</td>
<td>&lt;10</td>
<td>&lt;0.1</td>
<td>&lt;10</td>
<td></td>
</tr>
<tr>
<td>highly toxic</td>
<td>10-50</td>
<td>0.1 - 1</td>
<td>10 - 50</td>
<td>&lt;2</td>
</tr>
<tr>
<td>moderately toxic</td>
<td>51-500</td>
<td>&gt;1 - 10</td>
<td>51 - 500</td>
<td>2 - 11</td>
</tr>
<tr>
<td>slightly toxic</td>
<td>501-2000</td>
<td>&gt;10 - 100</td>
<td>501 - 2000</td>
<td></td>
</tr>
<tr>
<td>practically nontoxic</td>
<td>&gt;2000</td>
<td>&gt;100</td>
<td>&gt;2000</td>
<td>&gt;11</td>
</tr>
</tbody>
</table>

Taken from USEPA, 2012

1 LD₅₀ is the median lethal dose at which 50% of the test animals die from the treatment

2 LC₅₀ is the median lethal concentration at which 50% of the test animals die from the treatment

**Birds**

No relevant toxicity data were available for capsaicin for birds. However, capsaicin was evaluated as feed additive in chickens. Chicks provided up to 20 ppm capsaicin in their diet starting at 1 day of age showed no negative effect on body weight gain (McElroy et al., 1994).

Additionally, the repellency or avoidance of capsaicin in a few bird species has been investigated. Red-winged blackbird (*Agelaius phoeniceus*) generally detected and avoided capsaicin when given a choice between 5 percent capsaicin or untreated water (Mason and Maruniak, 1983). In another study, European starlings (*Sturnus vulgaris*) showed no differences in consumption of food or water containing up to 1 percent synthetic capsaicin (Mason et al., 1991). Depending on the amount of capsaicin on any food items, and the sensitivity of a particular species, exposure to capsaicin might be reduced due its repellant qualities.

**Mammals**

A number of studies evaluated the toxicity of capsaicin in mammals under laboratory conditions. According to the reported toxicity results, capsaicin would be considered moderately toxic (see...
Ecotoxicity Classification Table above) with oral LD$_{50}$ in mice from 97.4 to 118.8 mg/kg and 148.1 mg/kg 161.2 mg/kg in rats (Saito and Yamamoto, 1996).

White-tailed deer (*Odocoileus virginianus*) avoided diet treated with a solution of 0.14 percent capsaicin (Kimball et al., 2009) and laboratory rats avoided diets containing 0.1 percent capsaicin (Mason et al., 1991). As might occur with birds, species sensitive to capsaicin might avoid treated food and experience reduced exposure.

**Reptiles**

No relevant toxicity data were available for capsaicin for reptiles.

**Amphibians**

No relevant toxicity data were available for capsaicin for amphibians.

**Pollinators**

Capsaicin is practically nontoxic (see Ecotoxicity Classification Table above) to adult honey bees (*Apis mellifera*) with an oral LD$_{50}$ greater than 100 µg/bee for a sugar solution treated with natural capsaicin consisting of 65 percent capsaicin and 35 percent dihydrocapsaicin (Flesar et al., 2010).

**Soil-Dwelling Invertebrates**

No relevant toxicity data were available for capsaicin for earthworms or other soil-dwelling invertebrates.

**Fish**

Relevant toxicity data of capsaicin to fish is limited. Capsaicin is moderately toxic (see Ecotoxicity Classification Table above) to fish with a LC$_{50}$ in zebrafish (*Danio rerio*) of 5.98 ppm (Wang et al., 2014).

**Aquatic Invertebrates**

Relevant toxicity data for capsaicin for aquatic invertebrates for capsaicin is also limited. Zebra mussels (*Dreissena polymorpha*) collected from Lake Michigan and Lake Erie exhibited an EC$_{50}$ of 4.9 ppm for reattaching to surfaces (Cope et al., 1997) but zebra mussel collected from Lake Oolagah in Oklahoma exhibited no significant mortality at up to 30.5 ppm (Angarano et al., 2007). *Daphnia magna* also exhibited no significant mortality at up 30.5 ppm (Angarano et al., 2007). Capsaicin is therefore slightly toxic (see Ecotoxicity Classification Table above) to freshwater invertebrates.

* EC$_{50}$ is the effective concentration at which an adverse effect is noted in 50% of the test organisms. For aquatic invertebrates it can be difficult to determine mortality, so an EC$_{50}$ based on immobility is often reported.
Oliveira et al. (2014) tested three marine invertebrates. The Mediterranean mussel (*Mytilus galloprovincialis*) had an EC$_{50}$ of 3.9 ppm based on abnormal D-veliger development and a No Observed Effect Concentration (NOEC) of 0.01 ppm. Sea urchins (*Paracentrotus lividus*) had an EC$_{50}$ of 5.2 ppm based on larval growth with a NOEC of 0.001 ppm. The marine copepod (*Tisbe battaglaii*) had an LC$_{50}$ of 1.3 ppm. Capsaicin appears to be moderately toxic (see Ecotoxicity Classification Table above) to marine invertebrates.

**Conclusions**

The ecotoxicology data for many taxonomic groups for capsaicin are limited or nonexistent. The complete lack of data for amphibians, reptiles, and soil-dwelling invertebrates precludes a conclusive determination of risk potential for these groups. However, the low potential for risk in other taxonomic groups suggests there is not likely a high potential for adverse effects in these three groups.

No relevant toxicity data were available for birds, but capsaicin has been evaluated as a feed supplement for poultry with no apparent adverse effects, and many wild bird species are repelled by capsaicin. Therefore, there is sufficient evidence that use of capsaicin as a pesticide on cannabis is unlikely to cause adverse effects in birds.

Capsaicin is categorized as moderately toxic to mammals. At least some mammal species avoid food containing detectable concentrations of capsaicin which would likely limit exposure to capsaicin. For these reasons, capsaicin used as a pesticide on cannabis is not likely to cause adverse effects.

Capsaicin is practically nontoxic to pollinators such as the honey bee. Therefore, capsaicin used as a pesticide on cannabis is unlikely to cause adverse effects on pollinators.

Capsaicin is classified as slightly to moderately toxic to fish and freshwater or marine invertebrates. As long as efforts are made to keep capsaicin out of natural surface waters, capsaicin is unlikely to cause any adverse to aquatic species.

**References**


Environmental Fate & Toxicology Summary
Cinnamon Oil
(CAS # 8015-91-6)

Introduction

Cinnamon oil is an essential oil derived from the bark of trees belonging to genus *Cinnamomum*. Commonly used as a food flavoring and fragrance agent, medicine, and cosmetic, cinnamon oil is also an insecticide and miticide (HSDB, 2002). Liquid cinnamon oil is applied to terrestrial plants and acts as a direct-contact killing agent, repellant, antifeedant, oviposition deterrent, and growth regulator against whiteflies, thrips, fungi, spider mites, leafhoppers, and powdery mildew (DPR, 2017; Hong, et al., 2015; Koul et al., 2008, Godfrey, 2011; Clemson University, 2005). Cinnamon oil is exempt from registration as a pesticide under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) 25(b) Minimum Risk Pesticides and as a reduced-risk pesticide under 3 CCR 6147 (USEPA, 2015; 3 CCR 6147). Cinnamon oil is an organic pesticide valued for its use in integrated pest management (Godfrey, 2011).

The composition of the oils extracted from the bark, leaf, root, and fruit of cinnamon vary considerably. The major components identified in oil from bark, leaf, root and fruit are cinnamaldehyde, eugenol, camphor, and δ-cadinene and γ-cadinene, respectively (Paranagama et al., 2002; Benchaar et al., 2007). Cinnamon leaf oil, root oil, and fruit oil are not considered.

Example of Formulated Products*

BacStop®, Dr. Earth Final Stop® Vegetable Garden Insect Killer (in combination with other active ingredients)

*Reference to any specific product is for informational purposes only and does not constitute an endorsement or recommendation. Always read and follow label directions. If a label is unavailable, follow guidance in the product’s Safety Data Sheet (SDS) and/or in one or more of the following DPR documents: Pesticide Safety Information Series (PSIS); Compliance Assistance Booklets for Employers; and Pesticide Use Compliance Guide for Employers and Businesses.

Commonly Targeted Pest:

Whiteflies, thrips, fungi, spider mites, leafhoppers, and powdery mildew (Clemson University, 2005; Koul et al., 2008; Godfrey, 2011; DPR, 2017; Hong, et al., 2015).

Environmental Fate

The action of cinnamon oil is reported to be short lived, approximately 2 hours (Koul et al., 2008). Essential oils are typically volatile, have poor water solubility, and rapidly oxidize (Tripathi et al, 2009). This suggests it is not persistent in the environment (Koul et al., 2008).
Human Risk

Toxicity

Acute toxicity endpoints can be categorized from lowest toxicity to highest toxicity as shown in the table below. Throughout the discussion of human toxicity, these classifications will be referenced.

Acute Toxicity Categories for Human

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>LD50 (mg/kg)</th>
<th>LC50 (mg/L)</th>
<th>LD50 (mg/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (highest toxicity)</td>
<td>≤ 50</td>
<td>≤ 0.2</td>
<td>≤ 200</td>
</tr>
<tr>
<td>II (moderately toxic)</td>
<td>&gt;50 - 500</td>
<td>&gt;0.2 - 2</td>
<td>&gt;200 - 2000</td>
</tr>
<tr>
<td>III (slightly toxic)</td>
<td>&gt;500 - 5,000</td>
<td>&gt;2 - 20</td>
<td>&gt;2000 - 20,000</td>
</tr>
<tr>
<td>IV (lowest toxicity)</td>
<td>&gt;5000</td>
<td>&gt;20</td>
<td>&gt;20,000</td>
</tr>
</tbody>
</table>

Reference: 40 CFR 156.62
1. LD50 is the median lethal dose at which 50% of the test animals die from the treatment
2. LC50 is the median lethal concentration at which 50% of the test animals die from the treatment

Cinnamon oil has a safe history of use in foods, fragrances, and as a pesticide. Cinnamon oil has an estimated acute oral LD50 in mice and rats greater than 2,600 mg/kg and is a Toxicity Category III (slightly toxic) chemical (HSDB, 2002; 40 CFR 156.62). No other toxicological endpoints were available for any duration or route of exposure considered. Cinnamon oil is Generally Recognized as Safe (GRAS) by the Food and Drug Administration (FDA) and is designated as a reduced-risk pesticide in California with no known adverse human health effects (HSDB, 2002; 21 CFR 182.20). Pesticide products containing cinnamon oil are not expected to pose any serious or permanent toxicity to human health through the acute, subchronic, or chronic oral pathways.

Genotoxicity: No information was available regarding the genotoxic potential of cinnamon oil.

Mutagenicity: No information was available regarding the mutagenic potential of cinnamon oil.

Neurotoxicity: Cinnamon oil may have insecticidal properties through a neurotoxic mode of action. Cinnamaldehyde, the primary chemical component of cinnamon oil, has been reported to excite sensory neurons (Bandell et al., 2004) and induce the release of adrenaline (Iwasaki et al., 2008). Additionally, monoterpenoids, a class of compounds which comprise approximately twenty-five percent of cinnamon oil, are reported to impact the octopaminergic system, which
serves a critical role in the nervous system of insects but not mammals (Paranagama et al., 2002; Tripathi, 2009). Because vertebrates do not have octopamine receptors, this may potentially account for the selectivity of cinnamon oil (Tripathi, 2009). When large doses of cinnamon oil are consumed, cinnamon oil is reported to suppress the central nervous system (HSDB, 2002). However, this route of exposure is not occupationally relevant and the dose sufficiently high to cause neurotoxicity is not anticipated. Therefore, no adverse neurotoxic effects are anticipated to mammals when cinnamon oil is used as a pesticide.

Reproductive/Developmental Toxicity: No information was available regarding the reproductive or teratogenic potential of cinnamon oil. Cinnamon oil is not listed as a developmental toxicant on the Proposition 65 list (OEHHA, 2016).

Dermal Absorption Factor (DAF): No DAF was available for cinnamon oil.

Carcinogenicity: Cinnamon oil is not listed as a suspected carcinogen by the World Health Organization nor is listed as a carcinogen on Proposition 65 (OEHHA, 2016; WHO, 2016). No further information was available regarding the carcinogenic potential of cinnamon oil.

Skin, Eye, or Lung Irritation: Cinnamon oil has been reported as a skin and eye irritant (DPR, 1999; HSDB, 2002).

Exposure

Exposure pathways considered were ingestion, inhalation, and dermal absorption. Contact with pesticide residues may occur during pesticide mixing, loading or application or when handling treated cannabis crop. Although cultivators are not anticipated to intentionally ingest pesticide residues, incidental hand-to-mouth ingestion of pesticide residues may occur if hands are not properly washed and proper care is not taken to avoid unintentional transfer of pesticide residues on hands to mouth. Aerosolized pesticide from the use of application equipment, such as backpack sprayers, may be present and as a result, there is a potential for inhalation exposure during application. Not all product formulations containing cinnamon oil as the active ingredient require respiration equipment, possibly resulting in inhalation exposure. Because of the volatility of cinnamon oil, it is expected to partition into the air from plants and soil post-application, leading to inhalation exposure. Although there is the potential for dermal and eye exposure, label instructions require applicators to use long-sleeved clothing, pesticide-resistant gloves, close-toed shoes with socks, and safety glasses when the active ingredient greater than 8.5 percent (DPR, 1999). Cinnamon oil degrades quickly in the environmental and is not expected to persist (Koul et al., 2008).

Conclusion

Based on available toxicity data and its history of safe use as a food additive, cinnamon oil is not anticipated to have adverse effects to human health for any exposure pathway. No acute, subchronic, or chronic toxicological No Observed Adverse Effect Levels (NOAELs) have been established for any exposure pathway. Although there is the potential for human exposure to cinnamon oil when applied as a pesticide, the use of personal protective equipment reduces human contact. Due to the low mammalian toxicity, history of safe use, and rapid environmental
degradation, cinnamon oil is not anticipated to result in unacceptable risk to cultivators when applied as a pesticide in cannabis cultivation.

Cultivators applying pesticides should always read and follow the label, SDS and relevant DPR documents including the DPR Pesticide Safety Information Series (PSIS) (DPR, 2015), DPR Compliance Assistant Booklet for Employers (DPR, 2010a) and the DPR Pesticide Use Compliance Guide for Employers and Businesses (DPR, 2010b).

**Ecological Risk**

Acute ecotoxicity endpoints can be categorized from practically nontoxic to very highly toxic (see Ecotoxicity Classification Table below). Throughout the discussion of ecotoxicity results, these toxicity classes will be used.

### Acute Ecotoxicity Categories for Terrestrial and Aquatic Organisms.

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Taken from USEPA, 2012

1 LD$_{50}$ is the median lethal dose at which 50% of the test animals die from the treatment
2 LC$_{50}$ is the median lethal concentration at which 50% of the test animals die from the treatment

**Birds**

Japanese quail (*Coturnix japonica*) were exposed to 0, 250, 500 ppm cinnamon oil in their diets. Cinnamon oil caused increased body weight and testis weight at 250 ppm. Both 250 ppm and 500 ppm dietary cinnamon oil increased spermatid and sperm number (Türk et al., 2015).

**Mammals** (see Toxicity section under Human Risk for additional information)

The acute oral LD$_{50}$ for rats was 2,800 mg/kg (In HSDB, 2002) indicating that cinnamon oil is practically nontoxic to mammals (see Ecotoxicity Classification Table above). Additional toxicity data also suggest little potential for adverse effects. Mice dosed orally with up to 3,000 mg/kg did not experience mortality but did experience some narcotic effects (Shah et al., 1998). A longer exposure (3 months) for mice in drinking water at a daily dose of 100 mg/kg did not lead to any mortality or adverse effects on body or organ weights. There was an increase in testis weight and an increase in sperm motility (Shah et al., 1998). Similar results were observed when rats were dosed orally with 100 mg/kg/day for 10 weeks. There was no effect on body weight, but again an increased testis weight with increases in sperm concentrations and motility (Yuce et al., 2013).
Reptiles

No relevant toxicity data were available for cinnamon oil for reptiles.

Amphibians

No relevant toxicity data were available for cinnamon oil for amphibians.

Pollinators

No relevant toxicity data were available for cinnamon oil for pollinators and other listed insects.

Soil-Dwelling Invertebrates

No relevant toxicity data were available for cinnamon oil for earthworms or other soil-dwelling invertebrates.

Fish

No relevant toxicity data were available for cinnamon oil for fish.

Aquatic Invertebrates

No relevant toxicity data were available for cinnamon oil for aquatic invertebrates.

Conclusions

The ecotoxicology data for most taxonomic groups for cinnamon oil are limited or nonexistent. The complete lack of data for amphibians, reptiles, pollinators, soil-dwelling invertebrates, fish and aquatic invertebrates precludes a conclusive determination of risk potential for these groups.

Toxicity data existed only for birds and mammals. The available data indicate cinnamon oil is practically nontoxic. The data for birds and mammals can potentially be extrapolated to reptiles and terrestrial-phase amphibians suggested a low potential for adverse effects for these groups as well.

A complete lack of toxicity data for terrestrial invertebrates and aquatic species cannot be interpreted to indicate no adverse effects will occur. Although, USEPA (2000) has concluded the low solubility of cinnamaldehyde, a major component of cinnamon oil, is suggestive of low potential for adverse effects to aquatic species. As a precaution, applications of cinnamon oil should not be made to flowering plants attractive to pollinators, when pollinators are present, or in a manner such that cinnamon oil could drift or otherwise move to surface water.
References


Environmental Fate & Toxicology Summary
Citric Acid
(CAS # 77-92-90)

Introduction

Citric acid is a ubiquitous chemical in nature, found commonly in soil, water, animal tissue, plants, and food (USEPA, 2008; 2009). It is critical in human and other animal metabolism as a fundamental component to critical metabolic role in humans and other organisms as a fundamental part of the Krebs cycle (i.e., part of cellular respiration) It is used as an anti-microbial on sanitizing surfaces and as a food wash to kill bacteria, mold, and mildew, usually in combination with other active ingredients (USEPA, 1992; 2009). Citric acid is also a direct-contact insecticide as an active ingredient or as an enhancement agent as an inert ingredient. As of 2009, twenty-seven pesticide products were registered in the United States that list citric acid as an active ingredient (USEPA, 2009). However, citric acid qualifies for exemption under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) section 25(b) as a minimum risk pesticide and under 3 CCR 6147 as a reduced-risk pesticide and therefore registration is not required. (USEPA, 2015; 3 CCR 6147).

Example of Formulated Products*

Flying Skull® Nuke ‘Em Plant Products

*Reference to any specific product is for informational purposes only and does not constitute an endorsement or recommendation. Always read and follow label directions. If a label is unavailable, follow guidance in the product’s Safety Data Sheet (SDS) and/or in one or more of the following DPR documents: Pesticide Safety Information Series (PSIS); Compliance Assistance Booklets for Employers; and Pesticide Use Compliance Guide for Employers and Businesses.

Commonly Targeted Pest:

Mites, whiteflies, gnats, aphids, powdery mildew, yeast, and mold (Flying Skull®, undated)

Environmental Fate

Citric acid is widely distributed in animals, plants, and human foods. It readily degrades in the environment and is non-volatile (USEPA, 2009).

Human Risk

Toxicity

Acute toxicity endpoints can be categorized from lowest toxicity to highest toxicity as shown in the table below. Throughout the discussion of human toxicity, these classifications will be referenced.
Acute Toxicity Categories for Human

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Acute Oral LD₅₀</th>
<th>Acute Inhalation LC₅₀</th>
<th>Acute Dermal LD₅₀</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (highest toxicity)</td>
<td>≤ 50 mg/kg</td>
<td>≤ 0.2 mg/L</td>
<td>≤ 200 mg/kg</td>
</tr>
<tr>
<td>II (moderately toxic)</td>
<td>&gt;50 - 500 mg/kg</td>
<td>&gt;0.2 - 2 mg/L</td>
<td>&gt;200 - 2000 mg/kg</td>
</tr>
<tr>
<td>III (slightly toxic)</td>
<td>&gt;500 - 5,000 mg/kg</td>
<td>&gt;2 - 20 mg/L</td>
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<td>IV (lowest toxicity)</td>
<td>&gt;5000 mg/kg</td>
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</tbody>
</table>

Reference: 40 CFR 156.62
1. LD₅₀ is the median lethal dose at which 50% of the test animals die from the treatment
2. LC₅₀ is the median lethal concentration at which 50% of the test animals die from the treatment

Citric acid is exempt from registration through FIFRA Section 25(b) Minimum Risk Pesticide and a reduced-risk pesticide in California (DPR, 1999; USEPA, 2015). The acute, oral LD₅₀ of citric acid in rats is 3,000 mg/kg body weight. It is classified as slightly toxic (Toxicity Category III) through this route of exposure (USEPA, 2009). Other laboratory studies have evaluated oral exposure up to 1,380 mg/kg-d of citric acid for 120 days with no evident effects in dogs. In a chronic dietary study, rats did not exhibit adverse effects at 800 mg/kg-d after 1 year of exposure (USEPA, 2009). No LD₅₀ was reported for inhalation or dermal routes of exposure. Technical grade citric acid is a moderate skin irritant and a severe eye irritant (USEPA, 2009). The Food and Drug Administration (FDA) recognizes citric acid as ‘generally safe’ when used as a food additive (21 CFR 184.1140). As such, adverse human health effects are not expected through acute, subchronic, or chronic oral pathway.

Between 1987 and 2006, there were 74 human incidents in California potentially involving exposure to citric acid as a pesticide (USEPA, 2008). Only 4 were identified as being caused by citric acid. The symptoms in these reports included shortness of breath, throat irritation, chest tightness, wheezing, coughing, headache, nausea, vomiting, and eye irritation.

Genotoxicity: No information was available regarding the genotoxic potential of citric acid.

Mutagenicity: Citric acid was not found to be mutagenic in in vivo and in vitro assays (OECD, 2000; USEPA, 2009). No additional information was available regarding the mutagenic potential of citric acid.

Neurotoxicity: No evidence was located suggesting that citric acid used as pesticides has a neurotoxic mode of action or neurotoxic potential in mammals.
Reproductive/Developmental Toxicity: The 1996 Food Quality Protection Act (FQPA) requires the United States Environmental Protection Agency (USEPA) screen pesticide chemicals for their potential to cause endocrine disruption through a two-tiered approach. The USEPA program that addresses the screening of pesticides for endocrine disruption is known as the Endocrine Disruption Screening Program (EDSP) (USEPA, 2016). Citric acid is not listed as a developmental toxicant on the Proposition 65 list (OEHHA, 2016). No additional information was available regarding the reproductive or developmental toxicity of citric acid.

Dermal Absorption Factor (DAF): No DAF was available for citric acid (USEPA, 2009).

Carcinogenicity: Citric acid is not listed as a suspected carcinogen by the World Health Organization nor is listed as a carcinogen on Proposition 65 (OEHHA, 2016; WHO, 2016). No additional information was available regarding the carcinogenic potential of citric acid.

Skin, Eye, or Lung Irritation: Citric acid can cause skin irritation to sensitive individuals and is a severe eye irritant (USEPA, 2009) and also a lung irritant (USEPA, 2008).

Exposure

Exposure pathways considered were ingestion, inhalation, and dermal absorption. Contact with pesticide residues may occur during pesticide mixing, loading or application or when handling treated cannabis crop. Although cultivators are not anticipated to intentionally ingest pesticide residues, incidental hand-to-mouth ingestion of pesticide residues may occur if hands are not properly washed and proper care is not taken to avoid unintentional transfer of pesticide residues on hands to mouth. Aerosolized pesticide from the use of application equipment, such as backpack sprayers, may be present and as a result, there is a potential for inhalation exposure. This inhalation exposure is significantly reduced when suggested respirators are utilized (ADM, 2015). Because of the low volatility of citric acid, it is not expected to partition into air from plants or soil such that post-application inhalation is expected (USEPA, 2009). The potential for dermal and ocular exposure is reduced with the use of appropriate personal protective equipment (PPE) such as gloves, long sleeves, and safety glasses for products containing greater than 8.5 percent citric acid (DPR, 1999; USEPA, 2009). Dermal, eye, and lung exposure, including irritation, is minimized by the dilution of active ingredient in formulated pesticide products and its rapid environmental degradation (USEPA, 2008).

Conclusion

Based on available toxicity data, citric acid is not anticipated to have significant adverse effects on human health for the durations and routes of exposure considered if appropriate PPE is used and the product is applied according to label direction. Based on the low mammalian toxicity, safe history of use as a pesticide and as a food ingredient, the expectation of low exposure, and rapid environmental degradation, risk posed to cultivators is not anticipated to result in unacceptable risk to cultivators when applied as a pesticide in cannabis cultivation.

Cultivators applying pesticides should always read and follow the label, SDS and relevant DPR documents including the DPR Pesticide Safety Information Series (PSIS) (DPR, 2015), DPR.
Ecological Risk

Acute ecotoxicity endpoints can be categorized from practically nontoxic to very highly toxic (see Ecotoxicity Classification Table below). Throughout the discussion of ecotoxicity results, these toxicity classes will be used.

### Acute Ecotoxicity Categories for Terrestrial and Aquatic Organisms.

<table>
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<th>Toxicity Category</th>
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</tr>
<tr>
<td>highly toxic</td>
<td>10-50</td>
<td>0.1 - 1</td>
<td>10 - 50</td>
<td>2 - 11</td>
</tr>
<tr>
<td>moderately toxic</td>
<td>51-500</td>
<td>&gt;1 - 10</td>
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<tr>
<td>slightly toxic</td>
<td>501-2000</td>
<td>&gt;10 - 100</td>
<td>501 - 2000</td>
<td>&gt;2</td>
</tr>
<tr>
<td>practically non- toxic</td>
<td>&gt;2000</td>
<td>&gt;100</td>
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</tr>
</tbody>
</table>

Taken from USEPA, 2012

1. LD₅₀ is the median lethal dose at which 50% of the test animals die from the treatment
2. LC₅₀ is the median lethal concentration at which 50% of the test animals die from the treatment

**Birds**

No acute toxicity data were identified that would allow assigning a toxicity category for birds to citric acid, but the high dietary concentrations leading to minimal impacts suggests low acute toxicity as well. Day-old male, broiler type, cross-bred chicks were exposed to 6,500 ppm citric acid for 28 days in diet and did not exhibit altered survival or body weights. However, in the same set of experiments, Japanese quail (*Coturnix coturnix japonica*) provided 6,500 ppm in the diet for 28 days did experience a slight increase in mortality, but there was no effect on body weights (Sifri et al., 1977). In another study with day-old male broiler chicks, up to 20,000 ppm in the diet had no adverse effects (Waldroup et al., 1995).

**Mammals** (see Toxicity section under Human Risk for additional information)

The acute oral LD₅₀ of citric acid in rats is 3,000 mg/kg body weight (USEPA, 2009) indicating citric acid is practically nontoxic to mammals (see Ecotoxicity Classification Table above). Mice dosed with up to 241 mg/kg-d for days 6 – 15 of gestation exhibited no adverse effects for maternal or offspring survival or for teratology (FDRL, 1973). Similarly, rats dosed with up to 295 mg/kg-d for days 6 – 15 of gestation exhibited no adverse effects for maternal or offspring survival or for teratology (FDRL, 1973). Also, guinea pigs dosed with up to 272 mg/kg-d for days 6 – 10 of gestation exhibited no adverse effects for maternal or offspring survival or for teratology (FDRL, 1973). Finally, rabbits dosed with up to 425 mg/kg/-d for days 6 – 18 of gestation exhibited no adverse effects for maternal or offspring survival or for teratology (FDRL, 1973).
Big brown bats (*Eptesicus fuscus*) were dosed orally with solutions of citric acid of 8 or 16 percent w/w. The amount of citric acid considered toxic to the bats, based on the adverse physiological reaction of regurgitation, was within the range of 542 and 759 mg/kg (Pitt et al., 2014).

Reptiles

No relevant toxicity data were available for citric acid for reptiles.

Amphibians

No relevant toxicity data were available for citric acid for amphibians.

Pollinators

No relevant toxicity data were available for citric acid for pollinators and other listed insects.

Soil-Dwelling Invertebrates

No relevant toxicity data were available for citric acid for earthworms or other soil-dwelling invertebrates.

Fish

Juhnke and Lüdemann (1978 in Brandão et al., 1992) reported an LC$_{50}$ for fathead minnow (*Pimephales promelas*) to be 600 ppm which indicates citric acid would be practically nontoxic to fish (see Ecotoxicity Classification Table above).

Aquatic Invertebrates

Anderson (1944) reported a “threshold concentration” for *Daphnia magna* of 153 ppm which appears to be equivalent to an LC$_{100}$.

Conclusions

The ecotoxicology data for all taxonomic groups for citric acid are limited or nonexistent. The complete lack of data for amphibians, reptiles, pollinators, and soil-dwelling invertebrates, precludes a conclusive determination of risk potential for these groups.

The limited existing toxicity data for birds and mammals indicate citric acid is practically nontoxic or at worst has very low toxicity. The data for birds and mammals can potentially be extrapolated to reptiles and terrestrial-phase amphibians suggesting a low potential for adverse effects for these groups as well.

Aquatic toxicity data were very limited. The single fish study indicates citric acid is practically nontoxic to fish, but the single aquatic invertebrate toxicity study only reports a concentration
where complete mortality would occur. Such a value does not provide sufficient information to
assess what might constitute a “safe” concentration. A complete lack of toxicity data for
terrestrial invertebrates cannot be interpreted to indicate no adverse effects will occur. However,
USEPA (2009) states that citric acid is only registered for indoor use which will greatly diminish
the potential for citric acid to reach surface waters at high concentrations and would also
certainly preclude substantial exposure to pollinators or other listed insect species when used as a
pesticide during cannabis cultivation.

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Environmental Fate & Toxicology Summary
Clove Oil
(CAS # 8000-34-8)

Introduction

Clove oil is an essential oil derived from the clove plant (*Syzgium aromaticum*), commonly used as an herbal remedy, natural analgesic, and an antiseptic (Asl et al., 2013). This volatile and concentrated oil is composed of 35 known constituents, with eugenol being the primary component (Alma et al., 2007). Clove oil acts as a contact insecticide, miticide and a repellant against indoor and outdoor insects and mites when applied to ornamental plants and food crops (Clemson University, 2005; Koul et al., 2008; Nuñez and D’Aquino, 2012; Asl et al., 2013). In 1996, the United States Environmental Protection Agency (USEPA) categorized clove oil as minimum risk to humans such that it no longer required registration to be used as a pesticide (Clemson University, 2005). Clove oil is often combined with other essential oils, such as rosemary and peppermint oil, in pesticide products (CDA, 2017).

Example of Formulated Products*

Monterey All Natural 3-in-1 Garden Insect Spray, PureAg™ Pest Control Concentrate (in combination with other ingredients)

*Reference to any specific product is for informational purposes only and does not constitute an endorsement or recommendation. Always read and follow label directions. If a label is unavailable, follow guidance in the product’s Safety Data Sheet (SDS) and/or in one or more of the following DPR documents: Pesticide Safety Information Series (PSIS); Compliance Assistance Booklets for Employers; and Pesticide Use Compliance Guide for Employers and Businesses.

Commonly Targeted Pest:

Spider mites, flies, thrips, aphids, and mites (Clemson University, 2005; Godfrey, 2011)

Environmental Fate

The effects of clove oil as a pesticide are thought to be temporary due to its action as a contact-pesticide. Clove oil is not expected to bioaccumulate nor persist in the environment due to its volatility (Clemson, 2005; Koul et al., 2008; Hong et al., 2015)

Human Risk

Toxicity

Acute toxicity endpoints can be categorized from lowest toxicity to highest toxicity as shown in the table below. Throughout the discussion of human toxicity, these classifications will be referenced.
Acute Toxicity Categories for Human

<table>
<thead>
<tr>
<th>Toxicity Category I (highest toxicity)</th>
<th>Acute Oral LD&lt;sub&gt;50&lt;/sub&gt;</th>
<th>Acute Inhalation LC&lt;sub&gt;50&lt;/sub&gt;</th>
<th>Acute Dermal LD&lt;sub&gt;50&lt;/sub&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ 50 mg/kg</td>
<td>≤ 0.2 mg/L</td>
<td>≤ 200 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Toxicity Category II (moderately toxic)</td>
<td>&gt;50 - 500 mg/kg</td>
<td>&gt;0.2 - 2 mg/L</td>
<td>&gt;200 - 2000 mg/kg</td>
</tr>
<tr>
<td>Toxicity Category III (slightly toxic)</td>
<td>&gt;500 - 5,000 mg/kg</td>
<td>&gt;2 - 20 mg/L</td>
<td>&gt;2000 - 20,000 mg/kg</td>
</tr>
<tr>
<td>Toxicity Category IV (lowest toxicity)</td>
<td>&gt;5000 mg/kg</td>
<td>&gt; 20 mg/L</td>
<td>&gt;20,000 mg/kg</td>
</tr>
</tbody>
</table>

Reference: 40 CFR 156.62
1. LD<sub>50</sub> is the median lethal dose at which 50% of the test animals die from the treatment
2. LC<sub>50</sub> is the median lethal concentration at which 50% of the test animals die from the treatment

Clove oil has a safe history of use as both a food additive and analgesic. No toxicological endpoint was available for clove oil through the exposure pathways or durations considered. However, the acute, oral toxicity of eugenol, the primary component of clove oil, indicates the LD<sub>50</sub> is estimated to be 1,930 mg/kg-d in rats, classified as Toxicity Category III (slightly toxic) through the acute oral route (HSDB, 2012). No inhalation nor systemic dermal toxicity information was located, although clove oil is reported to be a mild skin and eye irritant (DPR, 1999). No other toxicological endpoints were available for clove oil through the exposure pathways or durations considered. Clove oil is “generally recognized as safe” (GRAS) by the Food and Drug Administration (FDA) when used as a food additive and dental cement (21 CFR 184.1257). Clove oil, as a pesticide, is not expected to pose serious or permanent adverse effects to human health through the acute, subchronic, or chronic oral pathways. Clove oil is designated as a minimum risk pesticide in the United States and a reduced-risk pesticide in California due to a lack of known adverse human health effects (DPR, 1999; USEPA, 2015).

Between 1992 and 2014, there were two incidents in California agricultural settings in which clove oil was the only implicated pesticide involved. Neither required hospitalization nor disability days (DPR, 2017).

Genotoxicity: No information was available regarding the genotoxic potential of clove oil.

Mutagenicity: No information was available regarding the mutagenic potential of clove oil.

Neurotoxicity: Clove oil is suspected to have insecticidal properties through a neurotoxic mode of action. Eugenol, which comprises approximately 80% of clove oil (Soltani et al, 2004), is reported to impact the octopaminergic system (Tripathi et al., 2009). Octopamine serves a critical role in the nervous system of insects but not mammals. Because vertebrates do not have octopamine receptors, this may potentially account for the selectivity of clove oil (Tripathi et al.,...
Reproductive/Developmental Toxicity: Clove oil is not listed as a developmental toxicant on the Proposition 65 list (OEHHA, 2016). No additional information was available regarding the reproductive or developmental toxicity of clove oil.

Dermal Absorption Factor (DAF): No DAF was available for clove oil. However, the ability of its primary constituent, eugenol, to absorb through skin facilitates its use in enhancing transdermal drug delivery (USPTO, 1989).

Carcinogenicity: Studies investigating the potential for clove oil as a carcinogen are equivocal. A 103-week dietary study mice to 12,500 mg/kg-d eugenol resulting in an increase in hepatocellular adenomas and hepatocellular carcinomas (NTP, 1983). However, these effects were not observed in rats at 12,500 mg/kg-d (NTP, 1983). Clove oil is not listed as a suspected carcinogen by the World Health Organization nor is listed as a carcinogen on Proposition 65 (OEHHA, 2016; WHO, 2016). No additional information was available regarding the reproductive or developmental toxicity of clove oil.

Skin, Eye, or Lung Irritation: Clove oil has the potential to cause eye and skin irritation (DPR, 1999). It also may cause respiratory irritation when inhaled (HSDB, 2012).

Exposure

Exposure pathways considered were ingestion, inhalation and dermal absorption. Contact with pesticide residues may occur during pesticide mixing, loading or application or when handling treated cannabis crop. Although cultivators are not anticipated to intentionally ingest pesticide residues, incidental hand-to-mouth ingestion of pesticide residues may occur if hands are not properly washed and proper care is not taken to avoid unintentional transfer of pesticide residues on hands to mouth. Aerosolized pesticide from the use of application equipment, such as backpack sprayers, may be present and as a result, there is a potential for inhalation exposure during application. Post-application inhalation exposure to clove oil may occur because clove oil is volatile. Most essential oils, such as clove oil, do not persist in the environment under field conditions (Koul et al., 2008). Products that contain more than 8.5% clove oil must have label language requiring use of gloves and safety glasses to minimize dermal and ocular irritation (DPR, 1999).

Conclusion

Based on available toxicity data, the history of safe use, and status as a minimum risk pesticide, clove oil is not anticipated to have adverse effects on human health for the exposures and durations considered if appropriate PPE is used and the product is applied according to label direction. No acute, subchronic, or chronic No Observed Adverse Effect Levels (NOAELs) have been established for the exposure pathways considered. Due to the low mammalian toxicity, history of safe use, and limited exposure, clove oil is not anticipated to result in unacceptable risk to cultivators when applied as a pesticide in cannabis cultivation.
Cultivators applying pesticides should always read and follow the label, SDS and relevant DPR documents including the DPR Pesticide Safety Information Series (PSIS) (DPR, 2015), DPR Compliance Assistant Booklet for Employers (DPR, 2010a) and the DPR Pesticide Use Compliance Guide for Employers and Businesses (DPR, 2010b).

Ecological Risk

Acute ecotoxicity endpoints can be categorized from practically nontoxic to very highly toxic (see Ecotoxicity Classification Table below). Throughout the discussion of ecotoxicity results, these toxicity classes will be used. Eugenol is a major component of clove oil, comprising approximately 80 percent (Soltani et al, 2004), and the toxicity of eugenol will be included when data for clove oil is lacking or as a supplement to the clove oil toxicity data.

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Avian: Acute Oral LD₅₀¹ (mg/kg)</th>
<th>Aquatic Organisms: Acute LC₅₀² (ppm or mg/L)</th>
<th>Wild Mammals: Acute Oral LD₅₀ (mg/kg)</th>
<th>Non-Target Insects: Acute LD₅₀ (µg/bee)</th>
</tr>
</thead>
<tbody>
<tr>
<td>very highly toxic</td>
<td>&lt;10</td>
<td>&lt;0.1</td>
<td>&lt;10</td>
<td></td>
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<tr>
<td>highly toxic</td>
<td>10-50</td>
<td>0.1 - 1</td>
<td>10 - 50</td>
<td>&lt;2</td>
</tr>
<tr>
<td>moderately toxic</td>
<td>51-500</td>
<td>&gt;1 - 10</td>
<td>51 - 500</td>
<td>2 - 11</td>
</tr>
<tr>
<td>slightly toxic</td>
<td>501-2000</td>
<td>&gt;10 - 100</td>
<td>501 - 2000</td>
<td></td>
</tr>
<tr>
<td>practically nontoxic</td>
<td>&gt;2000</td>
<td>&gt;100</td>
<td>&gt;2000</td>
<td>&gt;11</td>
</tr>
</tbody>
</table>

Taken from USEPA, 2012

¹ LD₅₀ is the median lethal dose at which 50% of the test animals die from the treatment
² LC₅₀ is the median lethal concentration at which 50% of the test animals die from the treatment

Birds

Acute oral LD₅₀ for red-winged blackbirds (*Agelaius phoeniceus*) for eugenol is greater than 316 mg/kg (Schafer and Jacobson, 1983). An absolute classification for eugenol toxicity to birds is not possible based on these results (see Ecotoxicity Classification Table above), but eugenol is moderately toxic to birds, and possibly slightly toxic or practically nontoxic.

Mammals (see Toxicity section under Human Risk for additional information)

The acute oral LD₅₀S for eugenol were determined for a number of species as follows: rats-2,680 mg/kg, mice – 3,000 mg/kg, and guinea pigs – 2,130 mg/kg (Jenner et al., 1964; Hagan et al., 1965) and rats greater than 2,000 mg/kg, and mice greater than 1,500 mg/kg (NTP, 1983). These acute toxicity results suggest eugenol, and clove oil by extrapolation, is slightly toxic to practically nontoxic to mammals.

Rats dosed orally for 34 days with eugenol experienced no mortality up to 1,400 mg/kg-d. There were indications of liver toxicity and damage to the gastrointestinal tract (Hagan et al., 1965; 1967).
Rats fed diets with up to 100,000 ppm eugenol for 14 days had no mortality up to 50,000 ppm eugenol in the diet. Diets with 25,000 ppm eugenol caused decreased body weights (NTP, 1983). Dietary concentrations of 12,500 ppm eugenol for 13 weeks caused decreased body weights in rats (NTP, 1983), whereas up to 10,000 ppm eugenol in diet for 19 weeks caused no adverse effects (Hagan et al., 1967). In a study lasting for 103 weeks, diets containing eugenol up to 6,000 ppm for males and up to 12,000 ppm in females again showed some adverse effects on body weights, but there were no treatment related mortality, and no evidence of carcinogenicity (NTP, 1983).

Mice fed diets with up to 100,000 ppm eugenol for 14 days had no mortality up to 25,000 ppm eugenol in the diet. Diets with 12,500 ppm eugenol caused decreased body weights (NTP, 1983). Dietary concentrations of 6,000 ppm eugenol for 13 weeks caused no significant differences in body weights, no mortality, and no dose-related gross or histopathologic effects (NTP, 1983). In a study lasting for 103 weeks, diets containing eugenol up to 6,000 ppm again showed some adverse effects on body weights, but no treatment related mortality. Eugenol caused increased incidences of both carcinomas and adenomas of the liver in male mice at the 3,000 ppm dietary level, and eugenol was associated with an increase in the combined incidences of hepatocellular carcinomas or adenomas in female mice (NTP, 1983).

Reptiles

No relevant toxicity data were available for clove oil for reptiles.

Amphibians

No relevant toxicity data were available for clove oil for amphibians.

Pollinators

The acute contact LD$_{50}$ of clove oil for honey bee (Apis mellifera) adult workers was 238.6 µg/bee. For 4th to 5th instar larvae receiving a single application of 5 µL into their wax comb cell, the acute contact LD$_{50}$ was 281.4 µg/larvae (Gashout and Guzmán-Novoa, 2009). Thus, clove oil is practically nontoxic to bees (see Ecotoxicity Classification Table above).

Soil-Dwelling Invertebrates

No relevant toxicity data were available for clove oil for earthworms or other soil-dwelling invertebrates.

Fish

A number of acute toxicity tests have been performed for clove oil with the following results: zebrafish (Danio rerio) LC$_{50}$ varied from 12.1 ppm to 26.2 ppm; guppy (Poecilia reticulata) LC$_{50}$ varied from 20.8 ppm to 22.8 ppm (Mácová et al., 2008; Doleželová et al., 2011). For eugenol, the following LC$_{50}$s were determined: rainbow trout (Oncorhynchus mykiss) - 4.11 ppm.
(Stroh et al., 1998), Coho salmon (*Oncorhynchus kisutch*) - 60.8 ppm (Stroh et al., 1998), zebrafish – 21.35 ppm (Grush et al., 2004). These results indicate clove oil and eugenol are slightly toxic to fish (see Ecotoxicity Classification Table above).

Pikeperch (*Sander lucioperca*) exposed to clove oil for periods as brief as brief as 10 minutes to concentrations of 33 ppm showed symptoms of mild stress (Kristan et al., 2012). Fifteen-minute exposures for zebrafish resulted in LC$_{50}$s from 71 to 106 ppm (Sánchez-Vázquez et al., 2011). Rainbow trout exposed to 25 ppm clove oil for 35 minutes survived the exposure, and all fish were anesthetized by the treatment (Cotter and Rodnick, 2006). In a test exposing zebrafish embryos for 168 hours, the LC$_{50}$ ranged from 11.4 to 18.7 ppm.

Aquatic Invertebrates

Estuarine green tiger prawns (*Penaeus semisulcatus*) exposed to clove oil (80% eugenol) for 1 hour had an LC$_{50}$ of 130 ppm at 30°C and a 24-hour LC$_{50}$ of 30 ppm at 30°C (Soltani et al., 2004). These tests were conducted for a shorter period than the standard 48 or 96 hours and at a slightly warmer temperature, but still suggest clove oil is slightly toxic to aquatic invertebrates (see Ecotoxicity Classification Table above).

Conclusions

The ecotoxicology data for clove oil for all taxonomic groups, except mammals and fish, are limited or nonexistent. The complete lack of data for amphibians, reptiles, and soil-dwelling invertebrates, precludes a conclusive determination of risk potential for these groups.

The limited existing toxicity data for birds suggests clove oil’s major component, eugenol, might be moderately toxic to birds or possible less toxic since the single test did not establish an estimated acute toxic endpoint. More data were available for eugenol and mammals and indicate eugenol is slightly to practically nontoxic to mammals. The data for birds and mammals can potentially be extrapolated to reptiles and terrestrial-phase amphibians suggesting a low potential for adverse effects for these groups as well.

Sufficient fish toxicity data exist to classify clove oil and eugenol as slightly toxic to fish. Only a single aquatic invertebrate study was available, and that study was for an estuarine species exposed for a shorter period than for standard aquatic toxicity tests. The one aquatic invertebrate study suggests clove oil is slightly toxic to aquatic invertebrates. Clove oil is considered practically nontoxic to pollinators.

The existing data for clove oil indicate a low potential for adverse effects to any ecological receptor following applications of clove oil as a pesticide for cannabis cultivation.

References


Environmental Fate & Toxicology Summary
Corn Oil
(CAS # 8001-30-7)

Introduction

Corn oil is the vegetable oil derived from the germ of maize (Zea mays), known commonly for its use in cooking, biodiesel, and as a vehicle delivery system for pharmaceuticals (CRA, 2006; Sigma-Aldrich, 2016). Vegetable oils are chemically composed of mixtures of triglycerides and unsaturated fatty acids (Aluyor et al., 2009). Like most vegetable oils, corn oil acts as an insecticide and miticide by smothering eggs, larvae, nymphs, and soft-bodied adult insects. As a fungicide, it suffocates fungal spores and prevents their attachment to host plants (Chalker-Scott, 2015). As of 2016, no products were registered with the United States Environmental Protection Agency (USEPA) that list corn oil as an active ingredient. However, corn oil qualifies for exemption from registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) section 25 (b) as a minimum risk pesticide. Therefore, registration is not required (USEPA, 2015). Corn oil is often combined with other vegetable and essential oils in various pesticide products (CDA, 2017).

Example of Formulated Products*

Srills® 420 Pest Bully; Bush Doctor® Force of Nature Fungicide; PureAg™ Pest Control Food Grade (concentrate)

*Reference to any specific product is for informational purposes only and does not constitute an endorsement or recommendation. Always read and follow label directions. If a label is unavailable, follow guidance in the product’s Safety Data Sheet (SDS) and/or in one or more of the following DPR documents: Pesticide Safety Information Series (PSIS); Compliance Assistance Booklets for Employers; and Pesticide Use Compliance Guide for Employers and Businesses.

Commonly Targeted Pest:

Aphids, spider mites, whiteflies, powdery mildew (PureAg™, undated; Srills®, LLC, undated; Fox Farm Soil & Fertilizer Company®, undated)

Environmental Fate

Corn oil, like many vegetable oils, is a lipophilic substance with an estimated Koc (organic-carbon water partition coefficient) of greater than 10x10^{10} (HSDB, 2015). Therefore, it is not expected to be mobile in soil (HSDB, 2015). Corn oil is insoluble in water and is likely to adsorb to sediment and suspended material should it be released into water (Aluyor, 2009; HSDB, 2015). Corn oil readily degrades in the environment through microbial processes and may be susceptible to direct photolysis when in sunlight (Aluyor, 2009; Eur Com, 2006; HSDB, 2015). Corn oil has a low vapor pressure and minimal evaporation from soil and foliage is expected (Aluyor et al., 2009; ARB, 2010).
Human Risk

Toxicity

Acute toxicity endpoints can be categorized from lowest toxicity to highest toxicity as shown in the table below. Throughout the discussion of human toxicity, these classifications will be referenced.

### Acute Toxicity Categories for Human

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Acute Oral LD$_{50}$</th>
<th>Acute Inhalation LC$_{50}$</th>
<th>Acute Dermal LD$_{50}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (highest toxicity)</td>
<td>≤ 50 mg/kg</td>
<td>≤ 0.2 mg/L</td>
<td>≤ 200 mg/kg</td>
</tr>
<tr>
<td>II (moderately toxic)</td>
<td>&gt;50 - 500 mg/kg</td>
<td>&gt;0.2 - 2 mg/L</td>
<td>&gt;200 - 2000 mg/kg</td>
</tr>
<tr>
<td>III (slightly toxic)</td>
<td>&gt;500 - 5,000 mg/kg</td>
<td>&gt;2 - 20 mg/L</td>
<td>&gt;2000 - 20,000 mg/kg</td>
</tr>
<tr>
<td>IV (lowest toxicity)</td>
<td>&gt;5000 mg/kg</td>
<td>&gt;20 mg/L</td>
<td>&gt;20,000 mg/kg</td>
</tr>
</tbody>
</table>

Reference: 40 CFR 156.62
1. LD$_{50}$ is the median lethal dose at which 50% of the test animals die from the treatment
2. LC$_{50}$ is the median lethal concentration at which 50% of the test animals die from the treatment

Corn oil has been used safely in cooking for over a century (CRA, 2006). The LD$_{50}$ of corn oil has been reported to be greater than 100,000 mg/kg body weight in rats through the acute oral exposure pathway (Eur. Com., 2006). No inhalation or dermal LC$_{50}$ nor LD$_{50}$ was available. No other toxicological endpoints were identified for any exposure route or duration considered. No known adverse human health effects have been identified when exposure to corn oil occurs. Pesticide products containing corn oil are not expected to pose any serious or permanent toxicity to human health through the acute, subchronic, or chronic oral pathways. Corn oil is exempt from registration as a minimum-risk pesticide through FIFRA Section 25(b) and as a reduced-risk pesticide in California due to its lack of mammalian toxicity (DPR, 1999; USEPA, 2015).

Between 1992 and 2014, no incidents were reported in California agricultural settings that implicated corn oil as the only active ingredient involved (DPR, 2017).

*Genotoxicity:* No information was available regarding the genotoxic potential of corn oil.

*Mutagenicity:* No information was available regarding the mutagenic potential of corn oil.
**Neurotoxicity:** Corn oil is commonly used as an inert (i.e., non-reactive) control and delivery media for fat-soluble compounds in neurotoxicity laboratory studies (Sigma-Aldrich, 2016). No additional information was located regarding the neurotoxic potential of corn oil in mammals.

**Reproductive/Developmental Toxicity:** Corn oil is commonly used as an inert (i.e., non-reactive) control and delivery media for fat-soluble compounds in reproductive and developmental laboratory studies (Sigma-Aldrich, 2016). Corn oil is not listed as a developmental toxicant on the Proposition 65 list (OEHHA, 2016). No additional information was available regarding the reproductive or developmental toxicity of corn oil.

**Dermal Absorption Factor (DAF):** No DAF was available for corn oil.

**Carcinogenicity:** Corn oil is not listed as a suspected carcinogen by the World Health Organization nor is listed as a carcinogen on Proposition 65 (OEHHA, 2016; WHO, 2016). No additional information was available regarding the carcinogenic potential of corn oil.

**Skin, Eye, or Lung Irritation:** Exposure to corn oil may cause skin and eye irritation (HSDB, 2015).

**Exposure**

Exposure pathways considered were ingestion, inhalation, and dermal absorption. Contact with pesticide residues may occur during pesticide mixing, loading or application or when handling treated cannabis crop. Although cultivators are not anticipated to intentionally ingest pesticide residues, incidental hand-to-mouth ingestion of pesticide residues may occur if hands are not properly washed and proper care is not taken to avoid unintentional transfer of pesticide residues on hands to mouth. The use of application equipment, such as backpack sprayers, may result in aerosolized pesticide. It is possible inhalation exposure to aerosolized corn oil may occur during application if cultivators do not apply in well-ventilated areas or utilize respirators. Because of the low vapor pressure of corn oil (< 1.0 mmHg @ 20°C), inhalation exposure from post-application residues volatilized from plants and soil is negligible (ARB, 2010). Although there is the potential for dermal exposure, label instructions for some product formulations including corn oil as the active ingredient suggest occupational workers use long-sleeved clothing, pesticide-resistant gloves, closed-toed shoes with socks, and safety glasses (Bush Doctor® fungicide, 2016). Because corn oil is often blended with other active ingredients in commercial products, the use of mixed-products containing corn oil may result in additional personal protection equipment (PPE) requirements. Corn oil degrades quickly in the environmental and is not expected to persist such that long-term exposure post-application is expected (Aluyor, et al., 2009; HSDB, 2015).

**Conclusion**

Based on available toxicity data, corn oil is not anticipated to have adverse effects to human health through any exposure pathway. No No Observed Adverse Effect Levels (NOAELs) have been established for exposure to corn oil for any pathway or duration considered. When PPE is used in compliance with the label, human exposure is further reduced. Due to the low toxicity,
safe history of use as a food, and rapid biodegradation, corn oil is not anticipated to result in unacceptable risk to cultivators when applied as a pesticide in cannabis cultivation.

Cultivators applying pesticides should always read and follow the label, SDS and relevant DPR documents including the DPR Pesticide Safety Information Series (PSIS) (DPR, 2015), DPR Compliance Assistant Booklet for Employers (DPR, 2010a) and the DPR Pesticide Use Compliance Guide for Employers and Businesses (DPR, 2010b).

Ecological Risk

Acute ecotoxicity endpoints can be categorized from practically nontoxic to very highly toxic (see Ecotoxicity Classification Table below). Throughout the discussion of ecotoxicity results, these toxicity classes will be used.

### Acute Ecotoxicity Categories for Terrestrial and Aquatic Organisms.

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Avian: Acute Oral LD₅₀¹ (mg/kg)</th>
<th>Aquatic Organisms: Acute LC₅₀² (ppm or mg/L)</th>
<th>Wild Mammals: Acute Oral LD₅₀ (mg/kg)</th>
<th>Non-Target Insects: Acute LD₅₀ (µg/bee)</th>
</tr>
</thead>
<tbody>
<tr>
<td>very highly toxic</td>
<td>&lt;10</td>
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</tr>
<tr>
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<td>10-50</td>
<td>0.1 - 1</td>
<td>10 - 50</td>
<td>&lt;2</td>
</tr>
<tr>
<td>moderately toxic</td>
<td>51-500</td>
<td>&gt;1 - 10</td>
<td>51 - 500</td>
<td>2 - 11</td>
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<tr>
<td>slightly toxic</td>
<td>501-2000</td>
<td>&gt;10 - 100</td>
<td>501 - 2000</td>
<td></td>
</tr>
<tr>
<td>practically non-toxic</td>
<td>&gt;2000</td>
<td>&gt;100</td>
<td>&gt;2000</td>
<td>&gt;11</td>
</tr>
</tbody>
</table>

Taken from USEPA, 2012

¹ LD₅₀ is the median lethal dose at which 50% of the test animals die from the treatment

² LC₅₀ is the median lethal concentration at which 50% of the test animals die from the treatment

Birds

Corn oil is commonly used as a carrier in which toxicants are dissolved or suspended to provide oral gavage doses, so corn is typically considered not harmful to birds. Control American kestrels (*Falco sparverius*) nestlings dosed with 5 mL corn oil/kg body weight starting at one day old and for 10 days did not experience any adverse effects (Hoffman et al., 1991). Assuming a density of 0.916 g/mL, this converts to a dose of 4,600 mg/kg. Control northern bobwhite (*Colinus virginianus*) dosed with 7 mL/kg body weight (equivalent to 6,400 mg/kg) for 14 days did not experience any adverse effects (Johnson et al., 2007). The doses in these studies indicate corn oil is practically nontoxic to birds (see Ecotoxicity Classification Table above).

Japanese quail (*Coturnix coturnix japonica*) fed a diet containing 150,000 ppm corn oil along with 20,000 ppm cholesterol experienced marked lipid-rich thickening of the aortal linings, increased liver weights and much higher lipid content of the liver (Sadi, et al., 1996). Some of the adverse effects can likely be contributed to the added cholesterol, but corn oil appears to have also contributed or exacerbated the effects since quail receiving diets with other oils along with cholesterol did not exhibit the same severity of effects.
Mammals (see Toxicity section under Human Risk for additional information)

Corn oil at high doses is not harmless to mammals. Rats fed diet containing 200,000 ppm corn oil weighed more at 238 days of age than groups fed many of the other lipids and did not live as long. Rats fed diets with elevated corn oil had an elevated incidence of cardiac fibrosis and a slightly elevated rate of bile duct proliferation (Kaunitz and Johnson, 1973).

In a two year study, survival of rats dosed with corn oil five times a week increased with dose, and the survival of male rats given 5 or 10 mL/kg was significantly greater than that of the controls. The mean body weights of rats receiving 2.5 or 5 mL corn oil/kg were 2 percent to 6 percent greater than those of controls; mean body weights of rats receiving 10 mL corn oil/kg were 10 percent greater than controls. The only adverse effects noted were some histopathological changes to the pancreas that occurred at all dose levels (NTP, 1991).

Rats were dosed daily with 2 or 10 mL corn oil/kg body weight for up to 4 weeks prior and during mating and the daily through day 3 of lactation. Some dams in the 10-mL group showed signs of toxicity during lactation, did not nurse their young and the pups died. Dams dosed with 2 mL/kg showed no adverse effects. Dams in the group dosed with 10 mL/kg exhibited reduced feed consumption, reduced body weight gain, and kidney damage. Corn oil did not appear to affect development, but the effects on the dams appears to have reduced pup viability. Males and non-pregnant females were not affected at 10 mL/kg, so pregnancy appears to be a stressor that leads to corn oil toxicity in kidneys (Sato et al., 2000).

Reptiles

Corn oil was used as the vehicle in three studies with western fence lizards (McFarland et al., 2008). The volume given to each control lizard was not stated, but can be assumed to be similar to the range of 50 to 150 µL aliquots given to test animals. Lizards were dosed one time, or daily for 14 and 60 days. None of the corn oil-treated animals exhibited any adverse effects. Western fence lizards weigh 11-12 g (Bennett and Nagy, 1977), so the doses at which no adverse effects were observed convert to approximately 800 mg/kg.

Amphibians

African common toads (Bufo regularis) dosed with 2 mL of corn oil three times a week for three months did not exhibit any adverse effects (Sadek, 1986). African common toads weigh up to 75 grams (El Gohary et al., 1994), so these doses convert to approximately 24,000 mg/kg. In a study evaluating garlic and garlic oil, control African common toads receiving 4,000 mg/kg corn oil showed slightly lower survival than those receiving garlic or garlic oil (El-Mofty et al., 1994).

Pollinators

No relevant toxicity data were available for corn oil for pollinators and other listed insects.
Soil-Dwelling Invertebrates

No relevant toxicity data were available for corn oil for earthworms or other soil-dwelling invertebrates.

Fish

No relevant toxicity data were available for corn oil for fish.

Aquatic Invertebrates

No relevant toxicity data were available for corn oil for aquatic invertebrates.

Conclusions

The ecotoxicology data for all taxonomic groups for corn oil are limited or nonexistent. The complete lack of data for aquatic-phase amphibians, reptiles, pollinators, soil-dwelling invertebrates, fish, and aquatic invertebrates precludes a conclusive determination of risk potential for these groups.

The limited existing toxicity data for birds indicate corn oil is practically nontoxic or at worst having very low toxicity. The data for mammals cannot be readily assigned a toxicity classification, but the doses at which adverse effects were observed were high and suggestive of low potential for adverse effects following applications of corn oil as a pesticide in cannabis cultivation. The available information for reptiles suggests corn oil is slightly to practically nontoxic to reptiles. The single study suggest suggests corn oil is practically nontoxic to terrestrial-phase amphibians as well. Since corn oil is practically nontoxic to terrestrial vertebrates, there is a very low potential for adverse effects following applications of corn as a pesticide in cannabis cultivation.

No aquatic toxicity data were identified. Corn oil is insoluble in water (HSDB, 2015), so measurable exposure to aquatic species would not be expected following the use of corn oil as pesticide in cannabis cultivation. Lack of exposure precludes any possibility of adverse effects in aquatic species. Oils can be physically harmful to insects such pollinators so direct applications to areas where pollinators are present should be avoided.

References


Sadek, I.A. 1986. The egyptian toad as a sensitive model to show the effect of corn oil on liver tumor induced by DMBA. Nutrition Research 6: 333-335.


Environmental Fate & Toxicology Summary
Cottonseed Oil
(CAS # 8001-79-4)

Introduction

Cottonseed oil is the vegetable oil derived from cotton (Gossypium hirsutum) known commonly for its use in cooking, cosmetic products, and as a pharmaceutical vehicle for lipophilic chemicals (CIR, 2001; Bogran et al., 2006; Dowd et al., 2010). Cottonseed oil contains a high percentage of linoleic and palmitic acid (Dowd et al., 2010). Like most vegetable oils, cottonseed oil acts as an insecticide and miticide by smothering eggs, larvae, and nymphs, as well as soft-bodied adult species (Skelly, 2013; Chalker-Scott, 2015). As a fungicide, it suffocates fungal spores and prevents their attachment to host plants (Bogran et al., 2006; Chalker-Scott, 2015). As of 2016, no products were registered with the California Department of Pesticide Registration (DPR) that list cottonseed oil as an active ingredient (DPR, 2016). However, cottonseed oil qualifies for exemption from registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) section 25 (b) as a minimum risk pesticide and a reduced-risk pesticide under 3 CCR 6147 (USEPA, 2015; 3 CCR 6147). Therefore, registration is not required for cottonseed oil as an active ingredient. Cottonseed oil is often combined with other vegetable and essential oils in various pesticide products (DPR, 1999).

Example of Formulated Products*

GC-3™ Fungicide, Bush Doctor® Force of Nature Miticide

*Reference to any specific product is for informational purposes only and does not constitute an endorsement or recommendation. Always read and follow label directions. If a label is unavailable, follow guidance in the product’s Safety Data Sheet (SDS) and/or in one or more of the following DPR documents: Pesticide Safety Information Series (PSIS); Compliance Assistance Booklets for Employers; and Pesticide Use Compliance Guide for Employers and Businesses.

Commonly Targeted Pest:

Mites, whiteflies, aphids, mealy bugs, thrips, powdery mildew (Skelly, 2013)

Environmental Fate

The insecticidal activity of cottonseed oil within the environment is thought to be temporary, due to its action as a contact-pesticide (Bogran et al., 2006; Chalker-Scott, 2015). Vegetable oils in general have a low vapor pressure, are insoluble in water, and are relatively biodegradable (Aluyor et al., 2009).
Human Risk

Toxicity

Acute toxicity endpoints can be categorized from lowest toxicity to highest toxicity as shown in the table below. Throughout the discussion of human toxicity, these classifications will be referenced.

### Acute Toxicity Categories for Human

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Acute Oral LD$_{50}$</th>
<th>Acute Inhalation LC$_{50}$</th>
<th>Acute Dermal LD$_{50}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category I (highest toxicity)</td>
<td>≤ 50 mg/kg</td>
<td>≤ 0.2 mg/L</td>
<td>≤ 200 mg/kg</td>
</tr>
<tr>
<td>Category II (moderately toxic)</td>
<td>&gt;50 - 500 mg/kg</td>
<td>&gt;0.2 - 2 mg/L</td>
<td>&gt;200 - 2000 mg/kg</td>
</tr>
<tr>
<td>Category III (slightly toxic)</td>
<td>&gt;500 - 5,000 mg/kg</td>
<td>&gt;2 - 20 mg/L</td>
<td>&gt;2000 - 20,000 mg/kg</td>
</tr>
<tr>
<td>Category IV (lowest toxicity)</td>
<td>≥5000 mg/kg</td>
<td>&gt; 20 mg/L</td>
<td>&gt;20,000 mg/kg</td>
</tr>
</tbody>
</table>

Reference: 40 CFR 156.62
1. LD$_{50}$ is the median lethal dose at which 50% of the test animals die from the treatment
2. LC$_{50}$ is the median lethal concentration at which 50% of the test animals die from the treatment

Current scientific literature indicates that cottonseed oil has low mammalian toxicity and it has been used safely by humans for centuries (Nixon, 1930; Boyd and Boulanger, 1969; HSDB, 2010). It is exempt from registration as a minimum-risk pesticide through FIFRA Section 25(b) and as a reduced-risk pesticide in California due to its safe history of use, commonplace as a food, and the lack of known adverse human health effects (USEPA, 2015; USDA, 2016; 3 CCR 6147). The LD$_{50}$ of cottonseed oil has been estimated to be greater than 80,000 mg/kg through the acute oral exposure pathway in rats (HSDB, 2010). Therefore, it is classified as a Toxicity IV chemical (lowest toxicity) via the oral pathway (40 CFR 156.62). No other toxicological endpoints were identified for any exposure route or duration considered. Due to its safe history of use as a food product and low toxicity, cottonseed oil, when applied as a pesticide, is not expected to pose any serious or permanent adverse effects to human health through the acute, subchronic, or chronic oral pathways when label instructions are followed.

Between 1992 and 2014, there have been no agricultural incidents in California implicating cottonseed oil as the only active ingredient involved (DPR, 2017).

Genotoxicity: No information was available regarding the specific genotoxic potential of cottonseed oil.
Mutagenicity: No information was available regarding the specific mutagenic potential of cottonseed oil.

Neurotoxicity: No evidence was located suggesting that cottonseed oil has a neurotoxic mode of action. Cottonseed oil is commonly used as an inert (i.e., non-reactive) control and delivery media for fat-soluble compounds in neurotoxicity laboratory studies (Wong et al., 2013). No additional information was available regarding the neurotoxic potential of cottonseed oil.

Reproductive/Developmental Toxicity: Cottonseed oil is commonly used as an inert (i.e., non-reactive) control and delivery media for fat-soluble compounds in reproductive and developmental laboratory studies (Wong et al., 2013). Cottonseed oil is not listed as a developmental toxicant on the Proposition 65 list (OEHHA, 2016). No additional information was available regarding the reproductive or developmental toxicity potential of cottonseed oil.

Dermal Absorption Factor (DAF): No DAF was available for cottonseed oil.

Carcinogenicity: Cottonseed oil is not listed as a suspected carcinogen by the World Health Organization nor is listed as a carcinogen on Proposition 65 (OEHHA, 2016; WHO, 2016). No additional information was available regarding the carcinogenic potential of cottonseed oil.

Skin, Eye, or Lung Irritation: Cottonseed oil has been reported to cause skin, eye, and respiratory irritation when direct contact occurs (HSDB, 2010).

Exposure

Exposure pathways considered were ingestion, inhalation, and dermal absorption. Contact with pesticide residues may occur during pesticide mixing, loading or application or when handling treated cannabis crop. Although cultivators are not anticipated to intentionally ingest pesticide residues, incidental hand-to-mouth ingestion of pesticide residues may occur if hands are not properly washed and proper care is not taken to avoid unintentional transfer of pesticide residues on hands to mouth. Aerosolized pesticide from the use of application equipment, such as backpack sprayers, may be present and as a result, there is a potential for inhalation exposure during application. Although not explicitly required in all product formulations, use of respirators is recommended due to cottonseed oil’s status as a respiratory irritant (DPR, 1999). Because of the low vapor pressure of cottonseed oil, inhalation exposure from volatilized pesticide residues post-application is not anticipated (Murata et al., 1993; Aluyor et al., 2009). Although there is the potential for dermal exposure, this is reduced when occupational workers use long-sleeved clothing, pesticide-resistant gloves, closed-toed shoes with socks, and safety glasses. In general, vegetable oils degrade rapidly in the environment and are not expected to persist (Aluyor et al., 2009).

Conclusion

Based on the available toxicity data, cottonseed oil is not anticipated to have adverse effects to human health for any exposure pathway. No No Observed Adverse Effects (NOAELs) were available for any exposure route or duration considered. Because cottonseed oil has the potential to be an eye and skin irritant, safety glasses and dermal protection is recommended. Due to the
low mammalian toxicity and history of safe use, cottonseed oil is not anticipated to result in unacceptable risk to cultivators when applied as a pesticide in cannabis cultivation.

Cultivators applying pesticides should always read and follow the label, SDS and relevant DPR documents including the DPR Pesticide Safety Information Series (PSIS) (DPR, 2015), DPR Compliance Assistant Booklet for Employers (DPR, 2010a) and the DPR Pesticide Use Compliance Guide for Employers and Businesses (DPR, 2010b).

Ecological Risk

Acute ecotoxicity endpoints can be categorized from practically nontoxic to very highly toxic (see Ecotoxicity Classification Table below). Throughout the discussion of ecotoxicity results, these toxicity classes will be used.

Ecotoxicity Classification Table

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Avian: Acute Oral LD50 (mg/kg)</th>
<th>Aquatic Organisms: Acute LC50 (ppm or mg/L)</th>
<th>Wild Mammals: Acute Oral LD50 (mg/kg)</th>
<th>Non-Target Insects: Acute LD50 (µg/bee)</th>
</tr>
</thead>
<tbody>
<tr>
<td>very highly toxic</td>
<td>&lt;10</td>
<td>&lt;0.1</td>
<td>&lt;10</td>
<td></td>
</tr>
<tr>
<td>highly toxic</td>
<td>10-50</td>
<td>0.1 - 1</td>
<td>10 - 50</td>
<td>&lt;2</td>
</tr>
<tr>
<td>moderately toxic</td>
<td>51-500</td>
<td>&gt;1 - 10</td>
<td>51 - 500</td>
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</tr>
<tr>
<td>slightly toxic</td>
<td>501-2000</td>
<td>&gt;10 - 100</td>
<td>501 - 2000</td>
<td></td>
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<td>practically nontoxic</td>
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<td>&gt;100</td>
<td>&gt;2000</td>
<td>&gt;11</td>
</tr>
</tbody>
</table>

Taken from USEPA, 2012

1 LD50 is the median lethal dose at which 50% of the test animals die from the treatment.
2 LC50 is the median lethal concentration at which 50% of the test animals die from the treatment.

Birds

No relevant toxicity data were available for cottonseed oil for birds.

Mammals (see Toxicity section under Human Risk for additional information)

In the one acute study reviewed, rats were dosed for 4 days and killed on day 5. When dosed with 60 mL/kg (54,900 mg/kg) or more, appreciable amounts of oil appeared in the feces. The LD50 was determined to be 275 mL/kg (251,000 mg/kg) cumulative amount administered over 4 days or 69 mL/kg/day (63,000 mg/kg). The LD0 was estimated to be 203 mL/kg (186,000 mg/kg) or 51 mL/kg-d (46,700 mg/kg-d). Clinical signs of toxicity occurred at all dose levels from 50 mL/kg-d (45,800 mg/kg-d) and up (Boyd and Boulanger, 1969). A density of 0.915 g/mL (HSDB 2010) was used to convert all the reported dose volumes into mg/kg. These data are sufficient to determine cottonseed oil is practically nontoxic to mammals (see Ecotoxicity Classification Table above).

In a dietary study, rats fed diets containing 200,000 ppm cottonseed oil weighed more at 238 days of age than groups fed many of the other lipids and exposure to cottonseed oil did not dramatically reduce their life span. Rats fed diets with elevated cottonseed oil had an elevated
incidence of cardiac fibrosis and a slightly elevated rate of bile duct proliferation (Kaunitz and Johnson, 1973).

Reptiles

No relevant toxicity data were available for cottonseed oil for reptiles.

Amphibians

No relevant toxicity data were available for cottonseed oil for amphibians.

Pollinators

No relevant toxicity data were available for cottonseed oil for pollinators and other listed insects.

Soil-Dwelling Invertebrates

No relevant toxicity data were available for cottonseed oil for earthworms or other soil-dwelling invertebrates.

Fish

Rainbow trout (*Oncorhynchus mykiss*) fed a diet containing 75,000 ppm dry weight cottonseed oil for one year experienced no effect on body weights. Relative liver weights were elevated, and exposure led to elevated incidence of liver carcinomas after 12 months, but not at any earlier time period (Hendricks et al., 1980).

Aquatic Invertebrates

No relevant toxicity data were available for cottonseed oil for aquatic invertebrates.

Conclusions

The ecotoxicology data for all taxonomic groups for cottonseed oil are limited or nonexistent. The complete lack of data for amphibians, birds, reptiles, pollinators, soil-dwelling invertebrates, and aquatic invertebrates precludes a conclusive determination of risk potential for these groups.

The limited existing toxicity data for mammals indicate cottonseed oil is practically nontoxic to mammals. Toxicity data were not available for other terrestrial vertebrate classes. The exceedingly high doses at which mortality occurred mammals suggests that adverse effects in any other class of terrestrial vertebrate is unlikely following application of cottonseed oil as a pesticide for cultivation of cannabis.

The only aquatic toxicity study entailed feeding a very high concentration of cottonseed oil to rainbow trout in their diet and such a route of exposure is unlikely following cottonseed oil applications in cannabis cultivation. Cottonseed oil is essentially insoluble in water (HSDB,
2010), so measurable exposure from water concentrations to aquatic species is not expected following the use of cottonseed oil as pesticide in cannabis cultivation. Lack of exposure precludes any possibility of adverse effects in aquatic species. Oils can be physically harmful to insects such pollinators so direct applications to areas where pollinators are present should be avoided.

**References**


Environmental Fate & Toxicology Summary
Garlic and Garlic Oil
(CAS # 8000-78-0)

Introduction

Garlic and its oil extracts are ingredients derived from the plant *Allium sativum* which are commonly used as both a food additive and in pesticides as a repellent. As a pesticide, garlic is typically formulated as either a powder or a distilled extract from the fresh or dehydrated bulb or cloves (USEPA, 1992). Although labels for products containing garlic may interchangeably list the active ingredient as garlic, garlic oil, garlic juice, and garlic water, all products are water-based compounds with extract or powdered *Allium sativum*. Therefore, the United States Environmental Protection Agency (USEPA) considers all variations of *Allium sativum* to be garlic oil and all are grouped under the PC Code 128827 and CAS Registry Number 8000-78-0 (USEPA, 2010). Garlic oil is applied by ground equipment or aerially to vegetable and fruit plants, grains, ornamental plants, and shrubbery, mainly for the purposes of repelling vertebrate and insect pests (USEPA, 1992; 2010). Garlic oil is listed as a minimum risk pesticide by the USEPA under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) section 25(b) and as a reduced-risk pesticide in California under 3 CCR 6147, exempting products containing garlic oil from registration (USEPA, 2015; 3 CCR 6147).

Example of Formulated Products*

Captiva®, Srills® Pest Bully, Aphid-Pruf® (in combination with other active ingredients)

*Reference to any specific product is for informational purposes only and does not constitute an endorsement or recommendation. Always read and follow label directions. If a label is unavailable, follow guidance in the product’s Safety Data Sheet (SDS) and/or in one or more of the following DPR documents: Pesticide Safety Information Series (PSIS); Compliance Assistance Booklets for Employers; and Pesticide Use Compliance Guide for Employers and Businesses.

Commonly Targeted Pest:

Insects, birds, deer, rabbits, squirrels (USEPA, 2010)

Environmental Fate

Garlic and garlic oil are commonly found in nature as substances derived from the garlic vegetable. As a water-based product, garlic and garlic water are soluble in aqueous media. Garlic is not persistent in the environment and rapidly degrades through biological, physical, and chemical processes (USEPA, 2010).
**Human Risk**

**Toxicity**

Garlic is a naturally-occurring substance that is commonly consumed as a food item and dietary supplement. As a repellent, it has a non-toxic mode of action, and there is a history of safe exposure to humans and the environment (USEPA, 2010). No toxicological endpoints were available for any route or duration of exposure. Garlic is generally recognized as safe (GRAS) by the United States Food and Drug Administration (FDA) due to history of safe use in the human diet and low acute and chronic toxicity (21 CFR 184.1317). Some studies suggest that garlic oil has therapeutic effects against cardiovascular diseases, tumor development, and as a protective agent of hepatotoxicity by other toxicants (Bayan et al., 2013). Therefore, garlic and garlic oil are considered of low toxicity to humans, animals, or plants (USEPA, 1992).

There have been four incidents involving garlic oil as an active ingredient in an agricultural setting from 1992 to 2014. However, all incidents involved other active ingredients and it is unclear which compound was responsible for these effects. The affected individuals were not hospitalized (DPR, 2017).

**Genotoxicity:** In addition to its significant history of safe use and wide-spread consumption by humans, the available scientific literature does not indicate that garlic or garlic oil is genotoxic (USEPA, 1992; 2010).

**Mutagenicity:** In addition to its significant history of safe use and wide-spread consumption by humans, the available scientific literature does not indicate that garlic or garlic oil is mutagenic (USEPA, 1992; 2010).

**Neurotoxicity:** Garlic and garlic oil have a non-toxic mode of action as a repellent and a safe history of use that extends for centuries (Bayan et al., 2013). Studies have reported garlic oil may attenuate the neurotoxic effects induced by sodium nitrate in rats (Hassan et al., 2010).

**Reproductive/Developmental Toxicity:** Garlic oil is not listed as a developmental toxicant on the Proposition 65 list (OEHHA, 2016). No further information was available regarding the reproductive or developmental toxicity potential of garlic.

**Dermal Absorption Factor (DAF):** No DAF was available for garlic or garlic oil.

**Carcinogenicity:** In addition to its significant history of safe use and wide-spread consumption by humans, the available scientific literature does not indicate that garlic or garlic oil is carcinogenic (USEPA, 1992; 2010). In contrast, in vitro and in vivo studies report that garlic may have anti-carcinogenic properties (Bayan et al., 2013). Garlic oil is not listed as a suspected carcinogen by the World Health Organization nor is listed as a carcinogen on Proposition 65 (OEHHA, 2016; WHO, 2016).
Skin, Eye, or Lung Irritation: Garlic oil is not reported to have irritating effects to the skin, eyes, or lungs (USEPA, 1992; 2010).

**Exposure**

Exposure pathways considered were ingestion, inhalation, and dermal absorption. Garlic has been used for hundreds of years in food and is sold as a dietary supplement. Contact with pesticide residues may occur during pesticide mixing, loading or application or when handling treated cannabis crop. Although cultivators are not anticipated to intentionally ingest pesticide residues, incidental hand-to-mouth ingestion of pesticide residues may occur if hands are not properly washed and proper care is not taken to avoid unintentional transfer of pesticide residues on hands to mouth. Aerosolized pesticide from the use of application equipment, such as backpack sprayers, may be present and as a result, there is a potential for inhalation exposure during application. Garlic oil, as a pesticide, is formulated through distillation processes, removing volatile compounds (USEPA, 2010). Therefore, post-application inhalation exposure to volatile garlic oil components is anticipated to be negligible. Dermal and eye exposure is reduced when long-sleeved clothing, shoes with socks, safety glasses, and gloves are worn in compliance with the label. Some product formulations containing garlic oil as an active ingredient require Restricted-Entry Intervals (REIs), further reducing exposure (Kitten Fertilizer & Supply, 2005).

**Conclusion**

Based on available toxicity data, use of garlic as a pesticide or repellant is not anticipated to have adverse effects on human health for any exposure pathway. No mechanism of toxicity in mammals has been identified for garlic and many studies report therapeutic effects of garlic oil. No acute, subchronic, or chronic No Observed Adverse Effect Levels (NOAELs) have been established for the pathways considered. Additionally, exposure to garlic oil is reduced when personal protection equipment is worn in compliance with the label. Based on the low mammalian toxicity, significant history of safe use as a pesticide and as a food ingredient, and rapid environmental degradation, garlic and garlic oil are not anticipated to result in unacceptable risk to cultivators when applied as pesticides in cannabis cultivation.

Cultivators applying pesticides should always read and follow the label, SDS and relevant DPR documents including the DPR Pesticide Safety Information Series (PSIS) (DPR, 2015), DPR Compliance Assistant Booklet for Employers (DPR, 2010a) and the DPR Pesticide Use Compliance Guide for Employers and Businesses (DPR, 2010b).

**Ecological Risk**

Acute ecotoxicity endpoints can be categorized from practically nontoxic to very highly toxic (see Ecotoxicity Classification Table below). Throughout the discussion of ecotoxicity results, these toxicity classes will be used.
Acute Ecotoxicity Categories for Terrestrial and Aquatic Organisms.

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Avian: Acute Oral LD50&lt;sup&gt;1&lt;/sup&gt; (mg/kg)</th>
<th>Aquatic Organisms: Acute LC50&lt;sup&gt;2&lt;/sup&gt; (ppm or mg/L)</th>
<th>Wild Mammals: Acute Oral LD50 (mg/kg)</th>
<th>Non-Target Insects: Acute LD50 (µg/bee)</th>
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<td>&gt;100</td>
<td>&gt;2000</td>
<td>&gt;11</td>
</tr>
</tbody>
</table>

Taken from USEPA, 2012

<sup>1</sup> LD<sub>50</sub> is the median lethal dose at which 50% of the test animals die from the treatment

<sup>2</sup> LC<sub>50</sub> is the median lethal concentration at which 50% of the test animals die from the treatment

**Birds**

Young leghorn chicks were fed diets containing 30,000 ppm garlic for an unstated duration resulting in increased rate of growth (Haenel et al., 1962 in LSRO, 1973). This study suggests that high concentrations in the diet are beneficial rather than harmful.

**Mammals (see Toxicity section under Human Risk for additional information)**

Daily oral doses of a partially purified aqueous alcohol extract of garlic bulbs, equivalent to 40,000 mg garlic/kg body weight had no effect on guinea pigs except for a slight weight loss (Torrescasana, 1946 in LSRO, 1973). In the case of rats, continuous daily ingestion of the partially purified aqueous alcohol extract of garlic bulbs, equivalent to about 138,000 mg garlic/kg body weight also resulted in slight weight loss (Torrescasana, 1946 in LSRO, 1973). These studies suggest garlic is practically nontoxic to mammals (see Ecotoxicity Classification Table above).

In other studies, rats given a prophylactic treatment of up to 100 mg/kg body weight daily for 1 week did not experience any adverse effects due to the garlic (Iqbal and Athar, 1998). Six of ten guinea pigs on a 50,000 to 200,000 ppm fresh garlic diet, equivalent to between 20 and 40 g of nutrient mixture daily died within 28 days and all five rats died within 11 days on a diet of 200,000 to 300,000 ppm fresh garlic (Carl et al., 1939).

**Reptiles**

No relevant toxicity data were available for garlic and garlic oil for reptiles.

**Amphibians**

A group of African common toad (Bufo regularis) force fed 20 mg (equivalent to approximately 440 mg/kg body weight) of fresh minced garlic once per day for four months had 47 of the 50 treated toads survive. Dosing with 0.1 mL of garlic oil once a day for four months allowed for the survival of 44 of the 50 treated toads. The survival of these treatments was greater than that
for a group receiving only corn oil (El-Mofty et al., 1994). If garlic or garlic oil was detrimental to African common toads, it did not cause dramatic, apparent adverse effects.

**Pollinators**

No relevant toxicity data were available for garlic and garlic oil for pollinators and other listed insects.

**Soil-Dwelling Invertebrates**

No relevant toxicity data were available for garlic and garlic oil for earthworms or other soil-dwelling invertebrates.

**Fish**

Guppies (*Poecilia reticulata*) were exposed to a filtered crude aqueous extract prepared by grinding 10 g of peeled garlic cloves in 50 mL distilled water in a domestic blender for one hour. Survival of guppies bathed in garlic extract was 100 percent at a concentration of 12.5 mL/L, but survival was 30 percent at 20 mL/L. Alternatively, garlic was dried and ground into a powder fed to guppies in diets at 20,000 and 40,000 ppm garlic powder for 14 days. Dietary garlic improved survival of guppies infected with *Gyrodactylus turnbulli* (Fridman et al., 2014). Garlic extract may be detrimental at certain concentrations, but dietary garlic, at least at the concentrations used in this study, appears to be beneficial.

**Aquatic Invertebrates**

No relevant toxicity data were available for garlic and garlic oil for aquatic invertebrates.

**Conclusions**

The ecotoxicology data for all taxonomic groups for garlic and garlic oil are limited or nonexistent. The complete lack of data for reptiles, pollinators, soil-dwelling invertebrates, and aquatic invertebrates precludes a conclusive determination of risk potential for these groups.

The single study for birds suggests that at up to fairly high concentrations diet, garlic is beneficial to birds. The limited existing toxicity data for mammals indicate garlic is practically nontoxic to mammals. Toxicity data were not available for other terrestrial vertebrate classes. The lack of toxicity and possible benefits of dietary garlic in birds, mammals, and terrestrial phase amphibians suggests that adverse effects in reptiles is unlikely following application of garlic or garlic oil as a pesticide or repellant for cultivation of cannabis.

The aquatic toxicity study feeding a very high concentration of garlic to guppies suggested garlic might be beneficial, but exposure to concentrations in the water was harmful at higher concentrations. These results were not sufficient to place garlic or garlic oil in an ecotoxicity category (see Ecotoxicity Classification Table above). That and the lack of toxicity data for aquatic invertebrates suggest a prudent precaution to not to allow garlic or garlic oil to reach...
surface waters following applications as a pesticide or repellent in cannabis cultivation. The lack of data for pollinator or other listed insects also indicates garlic and garlic oil should be applied when direct exposure to pollinator is possible or to flowering plants attractive to pollinators.

References


Introduction

Gliocladium virens, herein referred to as *G. virens*, is a species of asexual fungus that prevents root rot and other fungal diseases in plants by producing antifungal chemicals, actively attacking plant pathogens, and occupying the ecological niche of soil pathogens (USEPA, 2000; 2010a,b; Certis USA, LLC, 2006). *G. virens* is not effective in treating plants already infected by fungal pathogens. *G. virens* was first registered in 1990 and since 1995 has been registered for application to indoor, outdoor, and greenhouse food and nonfood crops. *G. virens* is applied by mixing granules directly into soil or dissolving *G. virens* in water that is then applied through soil drenching or irrigation (USEPA, 2000). For this ingredient summary, *G. virens* includes the strain GL-21 due to its registered use on food crops and exemption from residue tolerance requirements on food crops. As of 2016, two registered products contain *G. virens* GL-21 (spores) as the active ingredient in the United States (USEPA, 2016a).

Example of Formulated Products*

WRC-AP-1, Certis USA, LLC Soilgard®

*Reference to any specific product is for informational purposes only and does not constitute an endorsement or recommendation. Always read and follow label directions. If a label is unavailable, follow guidance in the product’s Safety Data Sheet (SDS) and/or in one or more of the following DPR documents: Pesticide Safety Information Series (PSIS); Compliance Assistance Booklets for Employers; and Pesticide Use Compliance Guide for Employers and Businesses.

Commonly Targeted Pest:

Pythium and rhizoctonia (both damping-off and root rot) (USEPA, 2000)

Environmental Fate

Little is known about the environmental fate of *G. virens*. It is a natural and ubiquitous fungus in United States soils (USEPA, 2000).

Human Risk

Toxicity

*G. virens* is ubiquitous in nature and has been used safely as a pesticide for over two decades (USEPA, 2000). *G. virens* exhibits low toxicity in rats through the oral and inhalation route of exposure. No pathogenicity or infectivity was observed (USEPA, 1990). Neither an LD50 nor a Toxicity Category classification was reported for these exposure pathways. Studies investigating up to 1 x 10⁸ colony forming units (cfu)/g body weight through the acute dermal exposure pathway reported no adverse effects, infectivity, or pathogenicity to rats (USEPA, 1990; 2010a).
*G. virens* is suspected to be a skin and eye irritant (USEPA, 2000; 2010a). *G. virens* is not reported to cause hypersensitivity (USEPA, 2010b). No acute, subchronic, or chronic No Observed Adverse Effect Levels (NOAELs) have been established for any exposure pathway (USEPA, 2010a,b). Based on available toxicity data and lack of pathogenicity to mammals, *G. virens* is not anticipated to cause adverse effects to human health.

Some strains of *G. virens* produce a toxin that has the potential for mammalian toxicity. However, this gliotoxin rapidly degrades in aerobic conditions and is not produced at levels of toxicological significant (USEPA, 1990).

Between 1992 and 2009, four incidents involving pesticide products containing *G. virens* as the active ingredient were reported in domestic animals and non-target plants. Of the incidents involving human health, symptoms included minor irritation to the eyes, skin, or respiratory system; however, these effects rapidly cleared (USEPA, 2010a).

**Genotoxicity:** No information was available regarding the genotoxic potential of *G. virens*.

**Mutagenicity:** No information was available regarding the mutagenic potential of *G. virens*.

**Neurotoxicity:** *G. virens* is not known to have a neurotoxic mechanism of action (Certis USA, LLC, 2006).

**Reproductive/Developmental Toxicity:** The 1996 Food Quality Protection Act (FQPA) requires the USEPA screen pesticide chemicals for their potential to cause endocrine disruption through a two-tiered approach. The USEPA program that addresses the screening of pesticides for endocrine disruption is known as the Endocrine Disruption Screening Program (EDSP) (USEPA, 2016b). The EDSP investigated the potential for *G. virens* to interfere with the endocrine system. Although no specific tests were conducted to determine its potential as an endocrine disruptor, *G. virens* is not a priority ingredient to evaluate for estrogenic or endocrine effects (USEPA, 2010a). *G. virens* is not listed as a developmental toxicant on the Proposition 65 list (OEHHA, 2016).

**Dermal Absorption Factor (DAF):** No DAF was available for *G. virens*.

**Carcinogenicity:** *G. virens* is not listed as a suspected carcinogen by the World Health Organization nor is listed as a carcinogen on Proposition 65 (OEHHA, 2016; WHO, 2016). No further information was available regarding the carcinogenic potential of *G. virens*.

**Skin, Eye, or Lung Irritation:** Human incident reports indicate contact with *G. virens* may cause dermal, eye, or lung irritation. However, the symptoms cleared rapidly and were minor in nature (USEPA, 2000; 2010a).

**Exposure**

Exposure pathways considered were ingestion, inhalation, and dermal absorption. Contact with pesticide residues is anticipated to occur during application or when handling treated cannabis crop. Although cultivators are not anticipated to intentionally ingest pesticide residues, incidental
hand-to-mouth ingestion of pesticide residues may occur if hands are not properly washed and proper care is not taken to avoid unintentional transfer of residues from hands to mouth. Equipment intended to reduce inhalation exposure, such as respirators, are not always required for products containing *G. virens* as the active ingredient (USEPA, 2000). There is potential for dermal contact to *G. virens* in occupational settings when applicators do not use pesticide-resistant gloves, long-sleeve clothing, socks, or close-toed shoes. Protective eyewear is required, reducing eye exposure (USEPA, 2000). Restricted-Entry Intervals (REI) are not always required for pesticide products containing *G. virens* as the active ingredient (Certis USA, LLC, 2006).

**Conclusion**

Based on available toxicity data, *G. virens* is considered to be of low toxicity to mammals. No NOAELS have been identified for the pathways and durations considered. Human incidents involving exposure to *G. virens* have been few and the effects were transient, further supporting the low toxicity of *G. virens*. Consistent with the product label, cultivators should utilize protective eye wear, long-sleeved shirts and pants, pesticide-resistant gloves, and close-toed shoes with socks when handling. Based on the low mammalian toxicity, safe history of use as a pesticide, and natural occurrence in the environment, *G. virens* is not anticipated to result in unacceptable risk to cultivators when applied as a pesticide in cannabis cultivation.

Cultivators applying pesticides should always read and follow the label, SDS and relevant DPR documents including the DPR Pesticide Safety Information Series (PSIS) (DPR, 2015), DPR Compliance Assistant Booklet for Employers (DPR, 2010a) and the DPR Pesticide Use Compliance Guide for Employers and Businesses (DPR, 2010b).

**Ecological Risk**

No acute ecotoxicity endpoint categories are available for biofungicide pesticides. The ecotoxicity data for *G. virens* are very limited.

**Birds**

Data on the ecological effects of *G. virens* were included only for an avian oral pathogenicity/toxicity study on bobwhite quail (*Colinus virginianus*). *G. virens* was practically nontoxic to terrestrial avian species by ingestion (USEPA, 1990).

**Mammals** (see Toxicity section under Human Risk for additional information)

Studies were performed and submitted to the USEPA (1990) for acute toxicity/pathogenicity as determined in oral, pulmonary and intravenous tests. Data were classified acceptable. The tests indicated that the *G. virens* was not toxic to, infective in, or pathogenic to rats.

**Reptiles**

No relevant toxicity data were available for *G. virens* for reptiles.
Amphibians

No relevant toxicity data were available for *G. virens* for amphibians.

Pollinators

No relevant toxicity data were available for *G. virens* for pollinators and other listed insects.

Soil-Dwelling Invertebrates

No relevant toxicity data were available for *G. virens* for earthworms or other soil-dwelling invertebrates.

Fish

No relevant toxicity data were available for *G. virens* for fish.

Aquatic Invertebrates

No relevant toxicity data were available for *G. virens* for aquatic invertebrates.

Conclusions

The ecotoxicology data for all taxonomic groups for *G. virens* are limited or nonexistent. No studies could be identified in the open literature. The only information available was those studies submitted to the USEPA. The complete lack of data for amphibians, reptiles, pollinators, soil-dwelling invertebrates, fish, and aquatic invertebrates precludes a conclusive determination of risk potential for these groups.

The very limited information from studies submitted to the USEPA indicates that *G. virens* is practically nontoxic and nonpathogenic to birds and mammals. USEPA (2010a) indicate *G. virens* is unlikely to proliferate in birds because of their body temperature, but this same assumption will not hold for reptiles and amphibians. Additionally, no aquatic toxicity data were required (USEPA, 2010a) because the applications being reviewed were either greenhouse or in-furrow. Use on cannabis might not be as restrictive, so these assumptions again might not apply to applications as a pesticide in cannabis cultivation. However, *G. virens* is a naturally occurring soil fungus (Kubicek and Harman, 1998; USEPA, 2010a). Considering the lack of toxicity data for pollinators, applications of *G. virens* should not be made when pollinators are present or allowed to drift to flowering plants attractive to pollinators. Considering the lack of aquatic toxicity data, no *G. virens* should not be allowed to drift or otherwise move to surface waters.

References


Environmental Fate & Toxicology Summary
Horticultural Oils (Petroleum Oils)
(Example CAS #’s include: 8012-95-1, 8020-83-5, 8042-47-5, 72623-86-0, 64741-89-5)

Introduction

Horticultural oils are a complex mixture of petroleum-based distillates that have been used on food and nonfood crops to control insects, mites, and fungi for over 130 years (USEPA, 2007). Petroleum-based horticultural oils are a complex mixture of C15-C50 hydrocarbons that can include aliphatic solvents, mineral oil, white mineral oil, summer/superior oil, dormant spray, narrow-range oil, and paraffinic hydrocarbons (Cornell University, 2003; Health Canada, 2008; Chalker-Scott, 2015; USDA, 2015). Although horticultural oils traditionally include both petroleum distillates and vegetable oils, this summary only includes petroleum oils that are highly refined through distillation, solvent extraction, and chemical conversion processes such that they may be used as pesticides (USEPA, 2007; USDA, 2015). Some forms of petroleum-based oils, such as white mineral oil, are used commercially in pharmaceutical and cosmetic products such as lotions (EFSA, 2012). Horticultural oils are direct-contact liquid insecticides and miticides that act through blocking insect and mite spiracles such that suffocation occurs. Horticultural oils also interfere with membrane function and act as antifeedants (Cornell University, 2003; Skelly, 2013). As of 2007, approximately 165 end-products were registered in United States that listed aliphatic solvents or mineral oil as the active ingredient (USEPA, 2007).

Example of Formulated Products*

First Choice® Narrow Range 415 Spray Oil; Bonide All Seasons® Horticultural Spray Oil

*Reference to any specific product is for informational purposes only and does not constitute an endorsement or recommendation. Always read and follow label directions. If a label is unavailable, follow guidance in the product’s Safety Data Sheet (SDS) and/or in one or more of the following DPR documents: Pesticide Safety Information Series (PSIS); Compliance Assistance Booklets for Employers; and Pesticide Use Compliance Guide for Employers and Businesses.

Commonly Targeted Pest:

Thrips, aphids, mites, whiteflies, powdery mildew (DPR, 2017a)

Environmental Fate

Horticultural oils include a wide variety of highly-refined petroleum distillates that vary in chain-length and aliphatic and aromatic composition. Therefore, it is challenging to generalize their environmental and physical properties. In general, the greater number of carbons in the horticultural oil, the less volatile the compound. Aliphatic solvents, including mineral oil, have low to moderate vapor pressures between $10^{-3}$ to $10^{-14}$ mmHg (USEPA, 2007), indicating they have low volatilizing potential at ambient temperatures. Oils typically exhibit poor water solubility and are highly lipophilic. As such, horticultural oils tend to adsorb to organic matter in soil and foliar surfaces with minimal migration (USEPA, 2007). Aliphatic solvents do not
contain functional groups that are subject to rapid breakdown through photolysis or hydrolysis. The compounds that are slightly more volatile may oxidize in the atmosphere (USEPA, 2007). Horticultural oils may be subject to primary biodegradation with the rate dependent on the exact composition and variety of microbial flora present (Colombo et al., 1996; USEPA, 2007; Mehboob et al., 2010). Horticultural oils degrade quickly in the environmental and are not expected to persist when in the presence of aerobic microbes (Colombo et al., 1996).

**Human Risk**

**Toxicity**

Acute toxicity endpoints can be categorized from lowest toxicity to highest toxicity as shown in the table below. Throughout the discussion of human toxicity, these classifications will be referenced.

### Acute Toxicity Categories for Human

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Acute Oral LD$_{50}$</th>
<th>Acute Inhalation LC$_{50}$</th>
<th>Acute Dermal LD$_{50}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (highest toxicity)</td>
<td>≤ 50 mg/kg</td>
<td>≤ 0.2 mg/L</td>
<td>≤ 200 mg/kg</td>
</tr>
<tr>
<td>II (moderately toxic)</td>
<td>&gt;50 - 500 mg/kg</td>
<td>&gt;0.2 - 2 mg/L</td>
<td>&gt;200 - 2000 mg/kg</td>
</tr>
<tr>
<td>III (slightly toxic)</td>
<td>&gt;500 - 5,000 mg/kg</td>
<td>&gt;2 - 20 mg/L</td>
<td>&gt;2000 - 20,000 mg/kg</td>
</tr>
<tr>
<td>IV (lowest toxicity)</td>
<td>&gt;5000 mg/kg</td>
<td>&gt; 20 mg/L</td>
<td>&gt;20,000 mg/kg</td>
</tr>
</tbody>
</table>

Reference: 40 CFR 156.62

1. LD$_{50}$ is the median lethal dose at which 50% of the test animals die from the treatment
2. LC$_{50}$ is the median lethal concentration at which 50% of the test animals die from the treatment

Refined petroleum-distillates have been used safely as pesticides for over a century and have a history of use in personal care products (EFSA, 2012). Through the acute oral pathway, no mortality has been observed in rats exposed to doses as high as 28,000 mg/kg. Horticultural oils are considered of low toxicity (Toxicity Category IV) through the acute oral route of exposure (USEPA, 2007). Humans have been orally exposed to white mineral oil at 1,500 mg/kg-d over multiple days without any reported adverse effects (EFSA, 2012). Through the acute inhalation pathway, the LC$_{50}$ of various end-products containing mineral oil as the active ingredient was estimated to be greater than 4.7 mg/L in rats. Based on United States Environmental Protection Agency (USEPA) Toxicity Categories, mineral oil is considered slightly to least toxic (Category III or IV) via inhalation. No LC$_{50}$ nor Toxicity Category classification was available for acute inhalation of aliphatic solvents (USEPA, 2007). No NOAELs have been established for the acute or chronic inhalation exposure to horticultural oils. One subchronic study investigating inhalation...
exposure to aliphatic solvents reported doses of 146.64 mg/kg-d for 6 hours a day, 5 days a week for 28 days in rats resulted in lung effects, increased white blood cell counts (in males), increased liver weight, abnormally coloration of the spleen, and additional (undisclosed) microscopic effects (USEPA, 2007). These effects, however, were determined to be due to the general inflammation/immune response resulting from the physical presence of foreign bodies in the lung rather than chemical-specific toxicity. Additionally, the purity of the testing material was not disclosed upon registration (USEPA, 2007). As the purity and degree of refinement is a key component in aliphatic solvent and mineral oil toxicity, the NOAEL may not be applicable to evaluating the toxicity of horticultural oils. Additionally, other comparable subchronic inhalation studies in rats did not observe the same toxic effects at doses up to 13,050 mg/kg-day (USEPA, 2007). Through the acute dermal exposure pathway, studies have found the LD$_{50}$ for paraffinic oils to be greater than 5,000 mg/kg in rats and for mineral oil to be greater than 2,000 mg/kg in rats and rabbits (USEPA, 2007). Based on USEPA Toxicity Categories, aliphatic solvents including mineral oil are considered slightly or of lowest toxicity (Category III or Category IV) through this pathway. Subchronic studies lasting 28 days have reported the dermal LD$_{50}$ to be greater than 2,000 mg/kg-d in mice for horticultural oils (USEPA, 2007). No NOAEL has been established for the acute, subchronic, or chronic dermal route. Horticultural oils may cause mild dermal and eye irritation with direct contact. Horticultural oils are not known to be dermal sensitizers. The Food and Drug Administration (FDA) recommended mineral oil be considered ‘generally recognized as safe’ (GRAS) when used as a food additive (USEPA, 2007), but its status is still pending.

Between 1992 and 2014, the California Pesticide Information Query (CalPIQ) indicated there were eight incidents involving agricultural use of mineral oil, petroleum distillates, petroleum hydrocarbons, or petroleum oil in California in which these pesticides were the only active ingredients involved (DPR, 2017b). None of the cases required hospitalization.

**Genotoxicity:** Current scientific literature suggests that there are no adverse genotoxic effects from exposure to aliphatic solvents, including mineral oil, when sufficiently refined (USEPA, 2007). These refined horticultural oils are distinct from untreated or mildly refined petroleum products or polycyclic aromatic hydrocarbons which, in contrast, are suspected to alter the genetic integrity of mammal DNA (EFSA 2013; USDA, 2015).

**Mutagenicity:** Highly refined aliphatic solvents demonstrate no evidence of mutagenicity in either the Ames tests nor in the mouse lymphoma forward mutation assay (USEPA, 2007). Additionally, highly purified fractions of mineral oil and petroleum oil were not found to be dermally mutagenic (DPR, 2001).

**Neurotoxicity:** Horticultural oils are not known to act through a neurotoxic action. Their mode of action in insects is from direct, physical contact leading to suffocation. The only adverse effect reported in humans (through the inhalation route) is suspected to be due to a foreign body reaction and not neurotoxicity (USEPA, 2007).

**Reproductive/Developmental Toxicity:** The 1996 Food Quality Protection Act (FQPA) requires the USEPA screen pesticide chemicals for their potential to cause endocrine disruption through a two-tiered approach. The USEPA program that addresses the screening of pesticides for endocrine disruption is known as the Endocrine Disruption Screening Program (EDSP) (USEPA,
Although no specific tests were conducted to determine its potential as an endocrine disruptor, the EDSP concluded there was no evidence aliphatic solvents caused endocrine disruption in mammals (USEPA, 2007). There is no evidence that horticultural oils will result in adverse reproductive and developmental effects. Highly refined petroleum oils are not listed as developmental toxicants on the Proposition 65 list (OEHHA, 2016).

**Dermal Absorption Factor (DAF):** No DAF is available for horticultural oils. However, the lipophilicity (oil-loving tendency) of a compound is a factor in skin absorption rates (Chen et al., 1995). Because horticultural oils, including mineral oil, are lipophilic, it is possible they absorb readily through the skin.

**Carcinogenicity:** Highly-refined mineral oil has not been classified as to its carcinogenicity (WHO, 1987). No evidence is available that suggests horticultural oils are carcinogenic (USEPA, 2007). These refined horticultural oils are distinct from untreated or mildly refined petroleum products or polycyclic aromatic hydrocarbons which, in contrast, are suspected to be human carcinogens (WHO, 1987; DPR, 2001; NTP, 2011; EFSA, 2013, USDA, 2015). Highly-refined petroleum oils are not listed as suspected carcinogens on Proposition 65 (OEHHA, 2016).

**Skin, Eye, or Lung Irritation:** Horticultural oils are slight dermal and eye irritants. Horticultural oils are not known to be dermal sensitizers (USEPA, 2007).

**Exposure**

Exposure pathways considered were ingestion, inhalation, and dermal absorption. Contact with pesticide residues may occur during pesticide mixing, loading or application or when handling treated cannabis crop. Although cultivators are not anticipated to intentionally ingest pesticide residues, incidental hand-to-mouth ingestion of pesticide residues may occur if hands are not properly washed and proper care is not taken to avoid unintentional transfer of pesticide residues on hands to mouth. There is the potential for both inhalation and dermal exposure to horticultural oils when applied in agricultural settings through ground equipment that produces aerosolized pesticide (USEPA, 2007). Horticultural oils contain a variety of petroleum products with low to moderate vapor pressure (USEPA, 2007). Horticultural oil’s potential for inhalation exposure through volatilization off foliar surfaces post-application depends on the horticultural oil composition (USEPA, 2007). The potential dermal exposure is reduced when cultivators use the required Personal Protection Equipment (PPE), including long-sleeve shirts, chemical-resistant gloves, and shoes and socks (USEPA, 2007). Although not always explicitly required, it is recommended mixers, loaders, and applicators use safety glasses or goggles to avoid any potential ocular irritation. Because of the low toxicity, many products have high maximum application rates and no restrictions on the number of applications per year (USEPA, 2007). A Restricted-Entry Interval (REI) of 4-12 hours is required for aliphatic solvents in agricultural applications (USEPA, 2007). Because horticultural oils degrade readily in the environment (Colombo et al., 1996), long-term exposure post-application is not expected.

**Conclusion**

Based on the low mammalian toxicity and history of safe use, no adverse effects to human health are anticipated when horticultural oils are used as pesticides. The only adverse effects identified
were observed in a single subchronic inhalation exposure study. However, the results were equivocal and not corroborated by other, comparable studies. Subchronic inhalation exposure post-application is not anticipated because horticultural oils typically have low volatility at ambient temperatures and readily degrade in the environment. When PPE, REI, and RTI requirements are followed in accordance to label directions, exposure to horticultural oils as a pesticide is expected to be significantly reduced. Based on the low mammalian toxicity, low exposure, and safe history of use as a pesticide, horticultural oils are not anticipated to result in unacceptable risk to cultivators when applied as pesticides in cannabis cultivation.

Cultivators applying pesticides should always read and follow the label, SDS and relevant DPR documents including the DPR Pesticide Safety Information Series (PSIS) (DPR, 2015), DPR Compliance Assistant Booklet for Employers (DPR, 2010a) and the DPR Pesticide Use Compliance Guide for Employers and Businesses (DPR, 2010b).

**Ecological Risk**

Mineral oil is discussed as a representative horticultural oil. Acute ecotoxicity endpoints can be categorized from practically nontoxic to very highly toxic (see Ecotoxicity Classification Table below). Throughout the discussion of ecotoxicity results, these toxicity classes will be used.

### Acute Ecotoxicity Categories for Terrestrial and Aquatic Organisms.

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Avian: Acute Oral LD$_{50}^{1}$ (mg/kg)</th>
<th>Aquatic Organisms: Acute LC$_{50}^{2}$ (ppm or mg/L)</th>
<th>Wild Mammals: Acute Oral LD$_{50}$ (mg/kg)</th>
<th>Non-Target Insects: Acute LD$_{50}$ (µg/bee)</th>
</tr>
</thead>
<tbody>
<tr>
<td>very highly toxic</td>
<td>&lt;10</td>
<td>&lt;0.1</td>
<td>&lt;10</td>
<td>&lt;2</td>
</tr>
<tr>
<td>highly toxic</td>
<td>10-50</td>
<td>0.1 - 1</td>
<td>10 - 50</td>
<td>&lt;2</td>
</tr>
<tr>
<td>moderately toxic</td>
<td>51-500</td>
<td>&gt;1 - 10</td>
<td>51 - 500</td>
<td>2 - 11</td>
</tr>
<tr>
<td>slightly toxic</td>
<td>501-2000</td>
<td>&gt;10 - 100</td>
<td>501 - 2000</td>
<td>&gt;11</td>
</tr>
<tr>
<td>practically nontoxic</td>
<td>&gt;2000</td>
<td>&gt;100</td>
<td>&gt;2000</td>
<td>&gt;11</td>
</tr>
</tbody>
</table>

Taken from USEPA, 2012

1 LD$_{50}$ is the median lethal dose at which 50% of the test animals die from the treatment

2 LC$_{50}$ is the median lethal concentration at which 50% of the test animals die from the treatment

**Birds**

Acute oral toxicity tests for mineral oil in bobwhite quail (*Colinus virginianus*) reported an LD$_{50}$ greater than 2,250 mg/kg with a No Observed Effect Level (NOEL) at the highest dose of 2,250 mg/kg (USEPA, 1993a; 1999a; 2001a). These results indicate mineral oil is practically nontoxic to birds (see Ecotoxicity Classification Table above).

A number of dietary toxicity tests were performed with bobwhite quail and mallards (*Anas platyrhynchos*) which all indicated the dietary LC$_{50}$ was greater than 5,500 ppm (USEPA, 1993b,c; 2001b; 2005a,b). Each of the tests also showed the NOEL was 5,500 ppm or more, with the single exception of a test with bobwhite with an NOEL of 1000 ppm (USEPA, 1993b).
Mammals (see Toxicity section under Human Risk for additional information)

Acute oral toxicity tests with rats resulted in LD50s greater than 15,000 mg/kg (USEPA, 2007; Dalbey et al., 2014). These results indicate mineral oil is practically nontoxic to mammals (see Ecotoxicity Classification Table above).

In a longer term study, dogs were exposed to 300 and 1500 ppm in the diet (equivalent to approximately 10 and 50 mg/kg body weight/day in males and 10 and 52 mg/kg/day in female dogs, respectively) for 90 days. All four oils were medicinal grade white oils which meet international pharmacopoeia standards for these substances. All dogs survived with the only impact being a slight laxative effect (Smith et al., 1995). Rats fed diets for 90 days with the same concentrations were equivalent to 21 and 108 mg/kg body weight/day in male rats and 25 and 125 mg/kg/day in female rats, respectively. No treatment-related adverse effects were observed on the mortality rate, physical appearance, or behavior of the rats during the study (Smith et al., 1995).

Reptiles

No relevant toxicity data were available for mineral oil for reptiles.

Amphibians

No relevant toxicity data were available for mineral oil for amphibians.

Pollinators

Two acute contact toxicity tests with honey bee reported an LD50 greater than 100 µg/bee with an NOEL of 100 µg/bee (USEPA, 1993d), or an LD50 greater than 25 µg/bee with no NOEL reported (USEPA, 1999b). These results indicate mineral oil is practically nontoxic to honey bees (see Ecotoxicity Classification Table above).

Soil-Dwelling Invertebrates

No relevant toxicity data were available for mineral oil for soil-dwelling invertebrates.

Fish

Freshwater acute toxicity tests with bluegill sunfish (*Lepomis macrochirus*) and rainbow trout (*Oncorhynchus mykiss*) reported LC50 values of greater than 100 ppm or more with reported No Observed Effect Concentrations (NOECs) of 100 ppm or more (USEPA, 1993e,f; 1994a,b; 1999c; 2005c). The estuarine sheepshead minnow (*Cyprinodon variegatus*) had an LC50 greater than 118 ppm with the NOEL reported as 118 ppm (USEPA, 2005d). These results indicate mineral oil is practically nontoxic to fish (see Ecotoxicity Classification Table above).
Aquatic Invertebrates

Freshwater toxicity tests for water flea (*Daphnia magna*) reported EC\textsubscript{50}\textsuperscript{*} values ranging from 0.021 ppm to 0.107 ppm with an LC\textsubscript{50} of greater than 14 ppm (USEPA, 1993g; 2005e; 2007). However, mortality or immobility of water fleas in the tests might have been the result of becoming entrapped in the oil floating on the surface or being physically coated and not from direct toxicity (USEPA, 2007). Acute toxicity tests for the estuarine species Eastern oyster (*Crassostrea virginica*) resulted in an EC\textsubscript{50} of 6.07 ppm and an NOEC of 2.34 ppm (USEPA, 2005f), whereas the mysid (*Americamysis bahia*) had an LC\textsubscript{50} of 0.70 ppm with an NOEC of 0.51 ppm (USEPA, 2006). Aquatic invertebrates demonstrate a range of sensitivities with toxicity classification ranging from highly toxic to slightly toxic (see Ecotoxicity Classification Table above).

Conclusions

With mineral oil as the representative horticultural oil, there appears little potential for adverse effect from the use of horticultural oils in cannabis cultivation. Acute oral toxicity tests indicated mineral oil was practically nontoxic for birds and mammals. The lack of toxicity data for amphibians, reptiles, and soil-dwelling invertebrates precludes a conclusive determination of risk potential for these groups. However, the low potential for risk in birds and mammals, suggests there is not likely a high potential for adverse effects in other terrestrial vertebrate groups. Mineral oil is practically nontoxic to honey bees, suggesting there is a low potential for adverse effects to pollinators from the use of mineral oil as a horticultural oil in cannabis cultivation. Mineral oil is practically nontoxic to fish indicating a low potential for adverse effects following the use of mineral oil as a horticultural oil in cannabis cultivation. The toxicity test results for aquatic invertebrates are equivocal due to the uncertainty whether adverse effects were artifacts of the test system or actual toxic impacts. As a precaution, mineral oil and other horticultural oils should not be allowed to drift to surface waters.

\textsuperscript{*} EC\textsubscript{50} is the effective concentration at which an adverse effect is noted in 50% of the test organisms. For aquatic invertebrates it can be difficult to determine mortality, so an EC\textsubscript{50} based on immobility is often reported.
References


Environmental Fate & Toxicology Summary
Insecticidal Soap (Potassium Salts of Fatty Acids)
(CAS # 67701-09-1)

Introduction

Potassium salts of fatty acids, a variant of soap salts used as pesticides, are found as a part of the human diet and in common household cleaners (USEPA, 1992; 2008; HERA, 2003). Potassium salts of fatty acids are also known as insecticidal soap. They are the active ingredient in some insecticides, miticides, and acaricides (USEPA, 2008). As an aerosol spray, solid, ready-to-use liquid, or liquid concentrate, insecticidal soap is applied to fruits, vegetables, flowers, ornamental plants, herbs, trees, lawns, and shrubbery for the purposes of killing insects and mites (USEPA, 2008; DPR, 2016). It acts as a pesticide by disrupting the exoskeleton and protective coat of soft insects, resulting in dehydration and death (Clemson, 2005; USEPA, 2008). Soap salts have been registered as a pesticide since 1947 and as of 2008, there were 42 pesticide products registered for use in the United States on terrestrial food and non-food crops in agricultural and residential settings (USEPA, 2008).

Example of Formulated Products*

Garden Safe® Brand Insecticidal Soap, Neudorff® Insecticidal Soap Concentrate

*Reference to any specific product is for informational purposes only and does not constitute an endorsement or recommendation. Always read and follow label directions. If a label is unavailable, follow guidance in the product’s Safety Data Sheet (SDS) and/or in one or more of the following DPR documents: Pesticide Safety Information Series (PSIS); Compliance Assistance Booklets for Employers; and Pesticide Use Compliance Guide for Employers and Businesses.

Commonly Targeted Pest:

Aphids, spider mites, whiteflies, thrips, caterpillars, leafhoppers (nymphs) (DPR, 2017)

Environmental Fate

Fatty acids are considered a naturally occurring substance, commonly found in nature and are integral components to the diet of birds, mammals, and invertebrates. The half-life of potassium salts of fatty acids is estimated to be less than one day and microbes readily degrade them in soil (USEPA, 1992). The vapor pressure of soap salts varies by composition, since the singular active ingredient is a combination of C12-C18 potassium salts of fatty acids. It is estimated that the vapor pressure of both the single and mixed composition of soap salts is low (HERA, 2003). Insecticidal soaps are expected to be resistant to hydrolysis over 43 days (USEPA, 1992).
Human Risk

Toxicity

Acute toxicity endpoints can be categorized from lowest toxicity to highest toxicity as shown in the table below. Throughout the discussion of human toxicity, these classifications will be referenced.

### Acute Toxicity Categories for Human

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Acute Oral LD$_{50}$</th>
<th>Acute Inhalation LC$_{50}$</th>
<th>Acute Dermal LD$_{50}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (highest toxicity)</td>
<td>≤ 50 mg/kg</td>
<td>≤ 0.2 mg/L</td>
<td>≤ 200 mg/kg</td>
</tr>
<tr>
<td>II (moderately toxic)</td>
<td>&gt;50 - 500 mg/kg</td>
<td>&gt;0.2 - 2 mg/L</td>
<td>&gt;200 - 2000 mg/kg</td>
</tr>
<tr>
<td>III (slightly toxic)</td>
<td>&gt;500 - 5,000 mg/kg</td>
<td>&gt;2 - 20 mg/L</td>
<td>&gt;2000 - 20,000 mg/kg</td>
</tr>
<tr>
<td>IV (lowest toxicity)</td>
<td>&gt;5000 mg/kg</td>
<td>&gt;20 mg/L</td>
<td>&gt;20,000 mg/kg</td>
</tr>
</tbody>
</table>

Reference: 40 CFR 156.62
1. LD$_{50}$ is the median lethal dose at which 50% of the test animals die from the treatment
2. LC$_{50}$ is the median lethal concentration at which 50% of the test animals die from the treatment

Insecticidal soap has a safe history of use in the diet, is ubiquitous throughout nature, and fatty acids are naturally metabolized as a critical energy and structural source in all living cells (USEPA, 2008). Humans are reported to consume approximately ninety grams of potassium salts of fatty acids a day solely through food (USEPA, 1992). Potassium salts of fatty acids are classified as Toxicity Category IV (lowest toxicity) for the acute oral exposure pathway. The oral LD$_{50}$ of oleic acid, a potassium salt of fatty acid, is reported to be 74,000 mg/kg in rats (USEPA, 1992). No LC$_{50}$ or Toxicity Category is available for the acute inhalation route. Toxicity through the acute dermal exposure pathway is classified as a Toxicity Category IV (lowest toxicity) chemical. Insecticidal soap can be irritating to skin. Studies investigating the irritation potential of potassium salts of fatty acids reported mild to moderate dermal irritation in humans at doses as low as 2.5 mg over 24 hours and as low as 15 mg when applied periodically over three days. Laboratory studies have observed mild to moderate dermal irritation in rabbits when exposed to 10 mg constantly over 24 hours and 500 mg intermittently over three days. Oleic acid, a potassium salt of fatty acid, was reported to cause irritation to rabbit eyes when 12 mg was applied for 48 hours. Insecticidal soap is not reported to be a sensitizing agent (USEPA, 1992). No No Observed Adverse Effect Levels (NOAELs) or toxicological endpoints were available for the pathways and durations considered. Salts of fatty acids (including potassium and sodium salts but not ammonium salts) are generally recognized as safe (GRAS) by the United States Food and Drug Administration (FDA) when used as food grade food additives (21 CFR § 172.863;
USEPA, 2008). Pesticide products containing insecticidal soap are not expected to pose any serious or permanent adverse effects to human health through the acute, subchronic, or chronic oral, inhalation, or dermal pathways.

Between 2002 and 2008, 8 incidents involving human health and potassium salts of fatty acids were reported in the United States. Most incidents involved dermal or eye irritation. The severity of the symptoms was not disclosed (USEPA, 2009).

Genotoxicity: No information was available regarding the genotoxic potential of potassium salts of fatty acids.

Mutagenicity: Insufficient information was available regarding the mutagenic potential of potassium salts of fatty acids.

Neurotoxicity: Insecticidal soaps have a physical mode-of-action for insects and are not known to be neurotoxic (USEPA, 2008).

Reproductive/Developmental Toxicity: Pregnant mice exposed to certain potassium salts of fatty acids were observed to have an increase in post-implantation mortality at 6,000 mg/kg (USEPA, 1992). However, more recent literature supports insecticidal soap as not likely to cause adverse reproductive or developmental toxicity (USEPA, 2008). Potassium salts of fatty acids are not listed as developmental toxicants on the Proposition 65 list (OEHHA, 2016). No further information was available regarding the reproductive or developmental toxicity of potassium salts of fatty acids.

Dermal Absorption Factor (DAF): No DAF was available for potassium salts of fatty acids.

Carcinogenicity: Potassium salts of fatty acids are not listed as a suspected carcinogen by the World Health Organization nor is listed as a carcinogen on Proposition 65 (OEHHA, 2016; WHO, 2016). No further information was available regarding the carcinogenic potential of potassium salts of fatty acids.

Skin, Eye, or Lung Irritation: Insecticidal soap is a mild to moderate dermal irritant when long-term exposure occurs. There is no indication that these effects are permanent. They are severe eye irritants. However, they are not dermal sensitizers (USEPA, 1992; 2008).

Exposure

Exposure pathways considered were ingestion, inhalation, and dermal absorption. Limited contact with pesticide residues may occur during pesticide mixing, loading or application or when handling treated cannabis crop. Although cultivators are not anticipated to intentionally ingest pesticide residues, incidental hand-to-mouth ingestion of pesticide residues may occur if hands are not properly washed and proper care is not taken to avoid unintentional transfer of pesticide residues on hands to mouth. However, the detectable, unpleasant taste would deter high levels of consumption (USEPA, 1992). Aerosolized pesticide from the use of application equipment, such as backpack sprayers, may be present and as a result, there is a potential for
inhalation exposure during application. However, this exposure is reduced when personal protection equipment is used in compliance with the label (USEPA, 2008; 2009). Because of insecticidal soap’s low vapor pressure, it is not expected to volatilize from plants or soil to a significant degree (HERA, 2003). Dermal and eye exposure is expected to be minimal due to label instructions designed to minimize contact with these sensitive sites (USEPA, 2008). Protective face masks or safety glasses are required for soap salts to mitigate eye exposure (USEPA, 1992). Therefore, contact with potassium salts of fatty acids when applied as a pesticide is expected to be low. Potassium salts of fatty acids degrade rapidly in the environment, suggesting long-term exposure to cultivators is not anticipated.

**Conclusion**

Based on available toxicity data, the safe history of use in food, and ubiquity in the environment and cells, insecticidal soap is not anticipated to have adverse effects on human health for any exposure pathway. Insecticidal soap is of low mammalian toxicity via the acute, subchronic, and chronic oral, dermal, and inhalation routes. No NOAELs have been established for the pathways and durations considered. Based on the low mammalian toxicity, safe history of use as a pesticide and as a food additive, and rapid environmental degradation, potassium salts of fatty acids are not anticipated to result in unacceptable risk to cultivators when applied as a pesticide in cannabis cultivation.

Cultivators applying pesticides should always read and follow the label, SDS and relevant DPR documents including the DPR Pesticide Safety Information Series (PSIS) (DPR, 2015), DPR Compliance Assistant Booklet for Employers (DPR, 2010a) and the DPR Pesticide Use Compliance Guide for Employers and Businesses (DPR, 2010b).

**Ecological Risk**

Potassium salts of fatty acids are discussed as a representative insecticidal soap. Acute ecotoxicity endpoints can be categorized from practically nontoxic to very highly toxic (see Ecotoxicity Classification Table below). Throughout the discussion of ecotoxicity results, these toxicity classes will be used.

**Acute Ecotoxicity Categories for Terrestrial and Aquatic Organisms.**

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Avian: Acute Oral LD50 (mg/kg)</th>
<th>Aquatic Organisms: Acute LC50 (ppm or mg/L)</th>
<th>Wild Mammals: Acute Oral LD50 (mg/kg)</th>
<th>Non-Target Insects: Acute LD50 (µg/bee)</th>
</tr>
</thead>
<tbody>
<tr>
<td>very highly toxic</td>
<td>&lt;10</td>
<td>&lt;0.1</td>
<td>&lt;10</td>
<td></td>
</tr>
<tr>
<td>highly toxic</td>
<td>10-50</td>
<td>0.1 - 1</td>
<td>10 - 50</td>
<td>&lt;2</td>
</tr>
<tr>
<td>moderately toxic</td>
<td>51-500</td>
<td>&gt;1 - 10</td>
<td>51 - 500</td>
<td>2 - 11</td>
</tr>
<tr>
<td>slightly toxic</td>
<td>501-2000</td>
<td>&gt;10 - 100</td>
<td>501 - 2000</td>
<td></td>
</tr>
<tr>
<td>practically nontoxic</td>
<td>&gt;2000</td>
<td>&gt;100</td>
<td>&gt;2000</td>
<td>&gt;11</td>
</tr>
</tbody>
</table>

Taken from USEPA, 2012

1. LD50 is the median lethal dose at which 50% of the test animals die from the treatment
2. LC50 is the median lethal concentration at which 50% of the test animals die from the treatment
Birds

Acute oral toxicity tests for potassium salts of fatty acids in bobwhite quail (*Colinus virginianus*) reported an LD₅₀ greater than 2,250 mg/kg with a No Observed Effect Level (NOEL) of 1,350 mg/kg (USEPA, 1986a) or an LD₅₀ greater than 5,000 mg/kg with an NOEL of 5,000 mg/kg (USEPA, 1996a). These results indicate potassium salts of fatty acids are practically nontoxic to birds (see Ecotoxicity Classification Table above).

A number of dietary toxicity tests were performed with bobwhite quail and mallards (*Anas platyrhynchos*) which all indicated the dietary LC₅₀ was greater than 5000 ppm (USEPA, 1987; 1997a,b). Each of the tests also showed the NOEL was 5000 ppm or more.

Mammals (see Toxicity section under Human Risk for additional information)

Acute oral toxicity tests with rats for oleic acid, a potassium salt of fatty acid, reported the LD₅₀ to be 74,000 mg/kg (USEPA, 1992). This result indicates potassium salts of fatty acids are practically nontoxic to mammals (see Ecotoxicity Classification Table above).

Reptiles

No relevant toxicity data were available for potassium salts of fatty acids for reptiles.

Amphibians

No relevant toxicity data were available for potassium salts of fatty acids for amphibians.

Pollinators

Three acute contact toxicity tests with honey bees reported LD₅₀s greater than 25 µg/bee to greater than 100 µg/bee with NOELs ranging from 25 to 50 µg/bee (USEPA, 1993; 1999a,b). These results indicate potassium salts of fatty acids are practically nontoxic to honey bees (see Ecotoxicity Classification Table above).

Soil-Dwelling Invertebrates

No relevant toxicity data were available for potassium salts of fatty acids for soil-dwelling invertebrates.

Fish

Freshwater acute toxicity tests reported an LC₅₀ of 35 ppm with a No Observed Effect Concentration (NOEC) of 12.5 ppm for bluegill sunfish (*Lepomis macrochirus*) (USEPA, 1985) and LC₅₀ of 9.19 ppm and 36.1 ppm with NOECs that was not reported and 21 ppm, respectively, for rainbow trout (*Oncorhynchus mykiss*) (USEPA, 1986b; 1996b). The estuarine sheepshead minnow (*Cyprinodon variegatus*) had an LC₅₀ greater than 2.1 ppm with the NOEC
reported as 2.1 ppm (USEPA, 2011a). These results indicate potassium salts of fatty acids are moderately to slightly toxic to fish (see Ecotoxicity Classification Table above).

Aquatic Invertebrates

A freshwater toxicity test for water flea (*Daphnia magna*) reported EC$_{50}$* values of 0.57 ppm to 0.107 ppm (USEPA, 1992). Acute toxicity tests for the estuarine species mysid (*Americamysis bahia*) had an LC$_{50}$ of greater than 2.1 ppm with an NOEC of 2.1 ppm (USEPA, 2011b). Aquatic invertebrates demonstrate a range of sensitivities with toxicity classification ranging from highly toxic to moderately toxic (see Ecotoxicity Classification Table above).

Conclusions

There appears to be little potential for adverse effects from the use of potassium salts of fatty acids in cannabis cultivation. Acute oral toxicity tests indicated potassium salts of fatty acids are practically nontoxic for birds and mammals. The lack of toxicity data for amphibians, reptiles, and soil-dwelling invertebrates precludes a conclusive determination of risk potential for these groups. However, the low potential for risk in birds and mammals, suggests there is not likely a high potential for adverse effects in other terrestrial vertebrate groups. Potassium salts of fatty acids are practically nontoxic to honey bees, suggesting there is a low potential for adverse effects to pollinators from the use of potassium salts of fatty acids as an insecticidal soap in cannabis cultivation. Potassium salts of fatty acids are moderately to slightly toxic to fish indicating a moderate to low potential for adverse effects following the use of potassium salts of fatty acids as insecticidal soap in cannabis cultivation. The toxicity test results for aquatic invertebrates demonstrate high to moderate toxicity. As a precaution, potassium salts of fatty acids and other insecticidal soaps should not be allowed to drift to surface waters.

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* EC$_{50}$ is the effective concentration at which an adverse effect is noted in 50% of the test organisms. For aquatic invertebrates it can be difficult to determine mortality, so an EC$_{50}$ based on immobility is often reported.
References


Introduction

_Isaria fumosorosea_ (herein referred to as “_I. fumosorosea_”), formerly _Paecilomyces fumosoroseus_, are entomopathogenic fungi that infect and kill several insect and mite pests (USEPA, 2011a; c). They naturally occur in diseased insect populations and various soils worldwide, and they can also be grown on various culture media (USEPA, 2011a). These parasitic fungi attack insects by attaching their conidia, an asexual reproductive spore, onto a host insect’s cuticle where they germinate and grow, leading to the insect’s death (USEPA, 2011a). Following the insect’s death, the fungus emerges and releases spores to infect other insects. For the purposes of this ingredient summary, _I. fumosorosea_ refers specifically to Apopka Strain 97, as current registered products of _I. fumosorosea_ allowed for use in California only include this strain (DPR, 2017a). _I. fumosorosea_ Apopka Strain 97 was originally isolated in 1986 from a mealybug in a greenhouse in Apopka, Florida, and it was first registered for pesticide use in the United States in 1998 (USEPA 1998; 2011a; c). _I. fumosorosea_ is applied to crops and ornamental plants in greenhouses and approved agricultural sites, and it is intended for directed ground and spray application, or soil application, to food and feed commodities (USEPA, 2011a; d).

Example of Formulated Products*

ANCORA™ Microbial Insecticide, PFR-97™ 20% WDG, Preferal Microbial Insecticide

*Reference to any specific product is for informational purposes only and does not constitute an endorsement or recommendation. Always read and follow label directions. If a label is unavailable, follow guidance in the product’s Safety Data Sheet (SDS) and/or in one or more of the following DPR documents: Pesticide Safety Information Series (PSIS); Compliance Assistance Booklets for Employers; and Pesticide Use Compliance Guide for Employers and Businesses.

Commonly Targeted Pest:

Whiteflies, thrips, aphids, spider mites (USEPA, 2011c; d)

Environmental Fate

_I. fumosorosea_, when used as an insecticide or miticide, rapidly degrades at room temperature (USEPA, 2011a). As an insect pathogen, _I. fumosorosea_ has a low probability of germinating and accumulating on harvested crops due to absence of insect host and unfavorable conditions (e.g., dryness) (USEPA, 2011a; c). In addition, several factors such as sunlight, temperature, and humidity affect the growth and survival of _I. fumosorosea_ in the environment (USEPA, 2011c).

_I. fumosorosea_ is a naturally occurring microorganism in soil with large fungal spores that readily adhere to soil particles (USEPA, 2011a). It is not expected to proliferate in aquatic environments and it will not be applied in water as a pesticide active ingredient (USEPA, 1998;
USEPA, 2011a; c). Due to these conditions, transport to surface water and percolation to groundwater is not likely to occur.

**Human Risk**

**Toxicity**

*I. fumosorosea* residues are not expected to be of toxicological concern (USEPA, 2011c). *I. fumosorosea* is categorized in Toxicity Category IV (lowest toxicity) for the acute oral pathway based on rat studies that investigated doses up to $1.7 \times 10^6$ colony-forming units/animal in a conidia spore suspension. No adverse effects, infectivity, or pathogenicity were observed (USEPA, 2011a; c). No studies were located for Apopka Strain 97 that specifically assess toxicity via inhalation. However, *I. fumosorosea* is categorized in Toxicity Category IV (lowest toxicity) for acute pulmonary toxicity based on intratracheal rat studies that investigated up to $10^6$ conidia spores/animal. No adverse effects were observed intratracheally (USEPA, 2011a; c).

Even though inhalation studies specific to *I. fumosorosea* Apopka Strain 97 were not available, inhalation studies for a different strain, namely *I. fumosorosea* strain FE 9901, were available. Strain FE 9901 is categorized in Toxicity Category III (slightly toxic) for the acute inhalation pathway based on studies that investigated rats exposed to $2 \times 10^9$ colony-forming units/g for four hours to the nose at a concentration of 2.18 mg/L. No mortalities nor adverse effects were observed (USEPA, 2011b). *I. fumosorosea* is categorized in Toxicity Category III (slightly toxic) for the acute dermal pathway, based on studies that investigated up to 2 grams of the ingredient applied to the skin of rabbits. No mortality nor evidence of systemic toxicity were observed (USEPA, 2011a; c). No adverse effects, infectivity, pathogenicity, or No Observed Adverse Effect Levels (NOAELs) were observed for any exposure pathway or duration considered.

Between 1992 and 2014, there were no reported agricultural incident in California implicating any strain of *I. fumosorosea* as the only active ingredient (DPR, 2017b).

*Genotoxicity:* No information was available regarding the genotoxic potential of *I. fumosorosea*.

*Mutagenicity:* Current literature does not suggest that *I. fumosorosea* has mutagenic potential based on negative results in a reverse mutation assay (Ames Assay) in both the presence and absence of microsomal enzymes (USEPA, 2011a; c). No other studies were located regarding the mutagenic potential of *I. fumosorosea*.

*Neurotoxicity:* No information was available regarding the neurotoxic potential of *I. fumosorosea*.

*Reproductive/Developmental Toxicity:* The 1996 Food Quality Protection Act (FQPA) requires the EPA screen pesticide chemicals for their potential to cause endocrine disruption through a two-tiered approach. The United States Environmental Protection Agency (USEPA) program that addresses the screening of pesticides for endocrine disruption is known as the Endocrine Disruption Screening Program (EDSP) (USEPA, 2016). The EDSP investigated the potential for *I. fumosorosea* to interfere with the endocrine system. Although no specific tests were conducted
to determine its potential as an endocrine disruptor, the EDSP concluded it is unlikely that this organism would have estrogenic or endocrine effects (USEPA, 2011a; c). No strain of *I. fumosorosea* is listed as a suspected developmental toxicant on Proposition 65 (OEHHA, 2017). No additional information was available regarding the reproductive or developmental toxicity of *I. fumosorosea*.

**Dermal Absorption Factor (DAF):** No DAF was available for *I. fumosorosea*.

**Carcinogenicity:** No strain of *I. fumosorosea* is listed as a suspected carcinogen by the World Health Organization nor is listed as a carcinogen on Proposition 65 (OEHHA, 2017; WHO, 2017). No additional information was available regarding the carcinogenic potential of *I. fumosorosea*.

**Skin, Eye, or Lung Irritation:** *I. fumosorosea* is categorized in Toxicity Category IV (lowest toxicity) for primary dermal irritation based on a study in rabbits that investigated exposure of up to 2 grams of the ingredient for four hours. It is found to be a slight dermal irritant (USEPA, 2011a; c). *I. fumosorosea* is categorized in Toxicity Category IV (lowest toxicity) for acute eye irritation based on a study in rabbits that investigated doses of diluted ingredient containing up to $\geq 10^7$ colony-forming units instilled in the eye. It is found to cause slight, reversible eye irritation (USEPA, 2011a; c). No information was available regarding potential lung irritation of *I. fumosorosea*.

**Exposure**

Exposure pathways considered were ingestion, inhalation, and dermal absorption. Contact with pesticide residues may occur during pesticide mixing, loading or application or when handling treated cannabis crop. Although cultivators are not anticipated to intentionally ingest pesticide residues, incidental hand-to-mouth ingestion of pesticide residues may occur if hands are not properly washed and proper care is not taken to avoid unintentional transfer of pesticide residues on hands to mouth. Inhalation exposure to aerosolized pesticide derived from the use of application equipment, such as backpack sprayers, is anticipated to be mitigated when the required respiration equipment is utilized in accordance with the label (USEPA, 2011a). There is potential for dermal and ocular contact to *I. fumosorosea* in occupational settings. However, the use of recommended gloves and proper attire (i.e., long-sleeved shirt, long pants, socks, shoes) in compliance with the label decreases the potential for dermal exposure (USEPA, 2011a). A restricted entry interval (REI) of 4 hours is required when applying current California registered pesticide products containing *I. fumosorosea* to agricultural crops in accordance with the label (Ancora Label, 2017; Preferal Label, 2015; PFR-97™20% WDG Label, 2012).

**Conclusion**

Based on available toxicity data and limited occupational exposure, *I. fumosorosea* is not anticipated to result in adverse effects to human health for any exposure pathway. No NOAELs were observed for any exposure pathway or duration considered. There is potential for human contact with *I. fumosorosea* when applied as a pesticide; however, this exposure is significantly reduced when personal protective equipment is used in accordance with the label. Due to the low
mammalian toxicity, natural presence in the environment, and limited exposure, *I. fumosorosea* is not anticipated to result in unacceptable risk to cultivators when applied as a pesticide in cannabis cultivation.

Cultivators applying pesticides should always read and follow the label, SDS and relevant DPR documents including the DPR Pesticide Safety Information Series (PSIS) (DPR, 2015), DPR Compliance Assistant Booklet for Employers (DPR, 2010) and the DPR Pesticide Use Compliance Guide for Employers and Businesses (DPR, 2013).

**Ecological Risk**

Toxicity data for *I. fumosorosea* are not available for all groups considered. Acute ecotoxicity endpoints can be categorized from practically nontoxic to very highly toxic as shown in the following (see Ecotoxicity Classification Table below). However, microbial pesticides are not always evaluated using the standard ecotoxicity classification categories.

**Acute Ecotoxicity Categories for Terrestrial and Aquatic Organisms.**

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Avian: Acute Oral LD₅₀¹ (mg/kg)</th>
<th>Aquatic Organisms: Acute LC₅₀² (ppm or mg/L)</th>
<th>Wild Mammals: Acute Oral LD₅₀ (mg/kg)</th>
<th>Non-Target Insects: Acute LD₅₀ (µg/bee)</th>
</tr>
</thead>
<tbody>
<tr>
<td>very highly toxic</td>
<td>&lt;10</td>
<td>&lt;0.1</td>
<td>&lt;10</td>
<td></td>
</tr>
<tr>
<td>highly toxic</td>
<td>10-50</td>
<td>0.1 - 1</td>
<td>10 - 50</td>
<td>&lt;2</td>
</tr>
<tr>
<td>moderately toxic</td>
<td>51-500</td>
<td>&gt;1 - 10</td>
<td>51 - 500</td>
<td>2 - 11</td>
</tr>
<tr>
<td>slightly toxic</td>
<td>501-2000</td>
<td>&gt;10 - 100</td>
<td>501 - 2000</td>
<td></td>
</tr>
<tr>
<td>practically</td>
<td>&gt;2000</td>
<td>&gt;100</td>
<td>&gt;2000</td>
<td>&gt;11</td>
</tr>
<tr>
<td>nontoxic</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 LD₅₀ is the median lethal dose at which 50% of the test animals die from the treatment
2 LC₅₀ is the median lethal concentration at which 50% of the test animals die from the treatment

**Birds**

A study (supplemental) indicated that *I. fumosorosea* strain Apopka 97 is not toxic or pathogenic to birds. *I. fumosorosea* strain Apopka 97 does not grow at avian body temperatures and is not expected to pose a hazard to birds (USEPA, 2011a).

**Mammals (see Toxicity section under Human Risk for additional information)**

Considering the general lack of toxicity data available for *I. fumosorosea* strain Apopka 97, toxicity information for alternative strains of *I. fumosorosea* was supplied when when available. When *I. fumosorosea* strain EH-506/3 was applied dermally to rabbits at 2 g test substance/kg body weight, no adverse effects were observed (Brunner-Mendoza *et al.*, 2017). Mice were also orally dosed with 10⁸ conidia of *I. fumosorosea* strain EH-506/3 resulting in no adverse effects or mortalities (Mier *et al.*, 2005). Acute oral exposure to 1.7 × 10⁶ CFU/rat of *I. fumosorosea* strain Apopka 97 did not cause any morality or adverse effects (USEPA, 2011a).
Reptiles

No relevant toxicity data were available for *I. fumosorosea* for reptiles.

Amphibians

The only information for amphibians is a single study where leopard frogs (*Rana pipiens*) were orally dosed with $10^9$ spores of *I. fumosorosea*. No mortalities were noted, but the observation period was not provided (Donovan-Peluso *et al.*, 1980). No other relevant toxicity data were available for *I. fumosorosea* for amphibians.

Pollinators and other Beneficial Arthropods

*I. fumosorosea* applied as PreFeRal 20WDG caused less than 25% mortality via direct contact for bumble bees (*Bombus terrestris*), first and second nymphal instars of minute pirate bug (*Orius laevigatus*) and mirid bug *Macrolophus caliginosus*, adult females of two-spotted mite (*Phytoseiulus persimilis*), and pupae and adults of parasitoid wasp (*Encarsia formosa*) (Sterk *et al.*, 1995). Exposure of larval convergent lady beetles (*Hippodamia convergens*) by dipping them for 10 seconds in aqueous solutions containing conidia of *I. fumosorosea* resulted in an LC$_{50}$ of 7.73 CFU/mL, indicating a potential to harm lady beetle larvae (James and Lighthart, 1994).

Studies submitted to the USEPA do not allow the agency to discount possible harmful effects to honey bees and other beneficial arthropods (USEPA, 2011a).

Soil-Dwelling Invertebrates

No relevant toxicity data were available for *I. fumosorosea* for soil-dwelling invertebrates.

Fish

USEPA (2011a) waived requirements for fish toxicity testing for *I. fumosorosea* strain Apopka 97 based on rationale provided by the registrant concluding harmful effects to fish are not expected.

Aquatic Invertebrates

USEPA (2011a) waived requirements for aquatic invertebrate toxicity testing for *I. fumosorosea* strain Apopka 97 based on rationale provided by the registrant concluding harmful effects to fish are not expected

Conclusions

No toxicity data were available for amphibians, reptiles, and soil-dwelling invertebrates. Acute toxicity test results indicate *I. fumosorosea* strain Apopka 97 was not harmful to birds. The only available toxicity data for mammals indicated that *I. fumosorosea* strain Apopka 97 was not harmful at high dose levels. *I. fumosorosea* may be harmful to honey bees and other beneficial
arthropods. USEPA has concluded that \textit{I. fumosorosea} strain Apopka 97 is not likely to be harmful to fish or aquatic invertebrates.

In general, applications of \textit{I. fumosorosea} as a pesticide in cannabis cultivation has a low potential to cause harmful effects to ecological receptors. \textit{I. fumosorosea} could possibly be harmful to pollinators and other beneficial arthropods.

\textbf{References}

Ancora Microbial Insecticide Label. 2017. OHP, Inc, USA, LLC. Mainland, PA.


PFR-97™ 20% WDG Label. 2012. Certis USA, LLC. Columbia, MD.

Preferal Microbial Insecticide Label. 2015. SePRO Corporation. Carmel, IN.


Environmental Fate & Toxicology Summary

Neem Oil
(CAS # 8002-65-1, 947173-77-5)

Introduction

Neem oil is a naturally occurring pesticide pressed directly from seeds of the Neem tree. It has been used widely in cosmetics and traditional folk medicine for hundreds of years (USEPA, 2009). Cold pressed neem oil includes the active ingredient azadirachtin whereas clarified hydrophobic extract of neem oil has the azadirachtin removed (USEPA, 2001). Both cold pressed neem oil and the clarified extract are used to control insects and mites on outdoor and greenhouse agricultural food, ornamental crops, and residential indoor and outdoor settings (USEPA, 2001; 2012a). Additionally, the clarified hydrophobic extract of neem oil is used to target powdery mildews and rusts (USEPA, 2001). Both oils act by coating the insect’s body, obstructing the breathing spiracles, suffocating the insect (Clemson, 2005). The azadirachtin in cold pressed neem oil has additional toxic action by disrupting the insect’s molting, mating, egg-laying, and feeding processes (USEPA, 2001). As of 2012, cold pressed neem oil met the eligibility criteria under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) for unconditional registration when used as an insect repellent, insecticide, insect growth regulator, nematicide, and fungicide. Due to its natural occurrence in the environment and non-toxic mode of action, neem oil is classified as a biopesticide (USEPA, 2012a).

Example of Formulated Products*

Debug® Turbo, Plasma Neem® Oil Biological Insecticide, Garden Safe Brand Fungicid3® Concentrate

*Reference to any specific product is for informational purposes only and does not constitute an endorsement or recommendation. Always read and follow label directions. If a label is unavailable, follow guidance in the product’s Safety Data Sheet (SDS) and/or in one or more of the following DPR documents: Pesticide Safety Information Series (PSIS); Compliance Assistance Booklets for Employers; and Pesticide Use Compliance Guide for Employers and Businesses.

Commonly Targeted Pest:

Aphids, mites, gnats, whiteflies, powdery mildew, and rusts (USEPA, 2001; DPR, 2017a)

Environmental Fate

Neem oil is found naturally in the environment, where it degrades in water and on soil surfaces (USEPA, 2001; 2009). A low vapor pressure indicates it is unlikely to partition into air (USEPA, 2009).
Human Risk

Toxicity

Acute toxicity endpoints can be categorized from lowest toxicity to highest toxicity as shown in the table below. Throughout the discussion of human toxicity, these classifications will be referenced.

### Acute Toxicity Categories for Human

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Acute Oral LD$_{50}^1$</th>
<th>Acute Inhalation LC$_{50}^2$</th>
<th>Acute Dermal LD$_{50}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category I (highest toxicity)</td>
<td>≤ 50 mg/kg</td>
<td>≤ 0.2 mg/L</td>
<td>≤ 200 mg/kg</td>
</tr>
<tr>
<td>Category II (moderately toxic)</td>
<td>&gt;50 - 500 mg/kg</td>
<td>&gt;0.2 - 2 mg/L</td>
<td>&gt;200 - 2000 mg/kg</td>
</tr>
<tr>
<td>Category III (slightly toxic)</td>
<td>&gt;500 - 5,000 mg/kg</td>
<td>&gt;2 - 20 mg/L</td>
<td>&gt;2000 - 20,000 mg/kg</td>
</tr>
<tr>
<td>Category IV (lowest toxicity)</td>
<td>&gt;5000 mg/kg</td>
<td>&gt; 20 mg/L</td>
<td>&gt;20,000 mg/kg</td>
</tr>
</tbody>
</table>

Reference: 40 CFR 156.62
1. LD$_{50}$ is the median lethal dose at which 50% of the test animals die from the treatment
2. LC$_{50}$ is the median lethal concentration at which 50% of the test animals die from the treatment

The biopesticide neem oil has a history of safe use in medications, personal care products, and pesticides that extends for centuries (Alexander, 2000; USEPA, 2001). Neem oil has been reported to have an acute, oral LD$_{50}$ of greater than 5,000 mg/kg body weight in rats, classifying it in Toxicity Category IV (lowest toxicity) through this route of exposure (USEPA, 2009). Subchronic oral toxicity testing in mice estimated the LD$_{50}$ to be greater than 4,000 mg/kg-d in a 90-day feeding study. In this report, no clinical signs of toxicity were observed that differed from the control group. Similarly, the acute inhalation LC$_{50}$ was estimated to be greater than 2.11 mg/L in mice, classifying it in Toxicity Category IV (lowest toxicity) via inhalation. The acute, dermal LD$_{50}$ was reported to be greater than 2,000 mg/kg in rabbits. Therefore, neem oil was classified as a Category III toxicant (lowest toxicity). Subchronic dermal and inhalation toxicity data were not required for unconditional registration of neem oil products due to the low acute toxicity and the expectation dermal exposure is metabolized in a similar manner as the oral route. No other toxicological endpoints, including No Observed Adverse Effect Levels (NOAELs), were identified. Neem oil has low mammalian toxicity for all routes of exposure (USEPA, 2012a). Therefore, no adverse effects are anticipated when neem oil is applied as a pesticide.

Between 1992 and 2014, there have been only two incidents involving neem oil as the only implicated pesticide in California agricultural settings. Neither resulted in hospitalization (DPR, 2017b).
Genotoxicity: No information was available regarding the genotoxic potential for neem oil.

Mutagenicity: Neem oil is not structurally similar to nor belongs to a chemical class known to be mutagenic (USEPA, 2012a). No further information was available regarding the mutagenic potential of neem oil.

Neurotoxicity: Neither cold pressed neem oil nor the clarified hydrophobic extract of neem oil are known to have neurotoxic modes of action in mammals. No further information was available regarding the neurotoxic potential of neem oil.

Reproductive/Developmental Toxicity: The 1996 Food Quality Protection Act (FQPA) requires the United States Environmental Protection Agency (USEPA) screen pesticide chemicals for their potential to cause endocrine disruption through a two-tiered approach. The USEPA program that addresses the screening of pesticides for endocrine disruption is known as the Endocrine Disruption Screening Program (EDSP) (USEPA, 2016). Cold pressed neem oil is not expected to be a developmental or reproductive toxicant for occupationally relevant exposure pathways (USEPA, 2010a; 2012a). Three generation dietary studies of cold pressed neem oil in rats did not result in mammalian developmental toxicity (USEPA, 2012a). Neem oil is not listed as a developmental toxicant on the Proposition 65 list (OEHHA, 2016).

Dermal Absorption Factor (DAF): No DAF was available for neem oil.

Carcinogenicity: Neem oil is not listed as a suspected carcinogen by the World Health Organization or on the Proposition 65 list (OEHHA, 2016; WHO, 2016). No further information was available regarding the carcinogenic potential of neem oil.

Skin, Eye, or Lung Irritation: Neem oil is not implicated as either a skin or eye irritant (USEPA, 2009).

Exposure

Exposure pathways considered were ingestion, inhalation, and dermal absorption. Contact with pesticide residues may occur during pesticide mixing, loading or application or when handling treated cannabis crop. Although cultivators are not anticipated to intentionally ingest pesticide residues, incidental hand-to-mouth ingestion of pesticide residues may occur if hands are not properly washed and proper care is not taken to avoid unintentional transfer of pesticide residues on hands to mouth. Aerosolized pesticide from the use of application equipment, such as backpack sprayers, may be present and as a result, there is a potential for inhalation exposure during application. Respirators are not always required for application of either cold pressed or the clarified extract of neem oil (USEPA, 2010b). Because of neem oil’s low vapor pressure (2.5 x 10⁻⁷ mm Hg @ 25°C), it is not expected to volatilize from plants or soil to a significant degree (NYSDEC, 2013). The potential for dermal exposure is greatly reduced when long-sleeved clothing, pesticide-resistant gloves, safety glasses, and close-toed shoes with socks are utilized in accordance with product labeling (USEPA, 2010b). Neem oil degrades quickly in the
environmental and is not expected to persist such that long-term exposure is anticipated (USEPA, 2012a).

Conclusion

Based on available toxicity data, use of neem oil as a pesticide is not anticipated to have adverse effects on human health for any exposure pathway. No NOAELs have been identified for the pathways and durations considered. Although there is potential for exposure to neem oil when applied as a pesticide, personal protection equipment and re-entry time interval requirements significantly reduce this exposure. Based on the low mammalian toxicity, safe history of use as a pesticide, rapid degradation, and limited exposure, neem oil is not anticipated to result in unacceptable risk to cultivators when applied as a pesticide in cannabis cultivation.

Cultivators applying pesticides should always read and follow the label, SDS and relevant DPR documents including the DPR Pesticide Safety Information Series (PSIS) (DPR, 2015), DPR Compliance Assistant Booklet for Employers (DPR, 2010a) and the DPR Pesticide Use Compliance Guide for Employers and Businesses (DPR, 2010b).

Ecological Risk

Acute ecotoxicity endpoints can be categorized from practically nontoxic to very highly toxic (see Ecotoxicity Classification Table below). Throughout the discussion of ecotoxicity results, these toxicity classes will be used.

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Avian: Acute Oral LD50 (mg/kg)</th>
<th>Aquatic Organisms: Acute LC50 (ppm or mg/L)</th>
<th>Wild Mammals: Acute Oral LD50 (mg/kg)</th>
<th>Non-Target Insects: Acute LD50 (µg/bee)</th>
</tr>
</thead>
<tbody>
<tr>
<td>very highly toxic</td>
<td>&lt;10</td>
<td>&lt;0.1</td>
<td>&lt;10</td>
<td>&lt;2</td>
</tr>
<tr>
<td>highly toxic</td>
<td>10-50</td>
<td>0.1 - 1</td>
<td>10 - 50</td>
<td>&lt;2</td>
</tr>
<tr>
<td>moderately toxic</td>
<td>51-500</td>
<td>&gt;1 - 10</td>
<td>51 - 500</td>
<td>2 - 11</td>
</tr>
<tr>
<td>slightly toxic</td>
<td>501-2000</td>
<td>&gt;10 - 100</td>
<td>501 - 2000</td>
<td>2 - 11</td>
</tr>
<tr>
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<td>&gt;2000</td>
<td>&gt;100</td>
<td>&gt;2000</td>
<td>&gt;11</td>
</tr>
</tbody>
</table>

Taken from USEPA, 2012b

1 LD50 is the median lethal dose at which 50% of the test animals die from the treatment
2 LC50 is the median lethal concentration at which 50% of the test animals die from the treatment

Birds

Cold Pressed Neem Oil

A single acute toxicity study was available for cold pressed neem oil. The LD50 for red-winged blackbirds (*Agelaius phoeniceus*) was greater than 1000 mg/kg (Schafer and Jacobson, 1983). In a second acute toxicity test with extracted neem oil which was obtained by extracting crushed dried seed kernels, the LD50 was 1000 mg/kg classifying neem oil as slightly toxic to birds (see Ecotoxicity Classification Table above). In a reproductive toxicity study in chickens, a diet
containing 100,000 ppm had no effect on egg laying, hatchability, or body weight gain, and caused no mortality in the laying hens (Verma et al., 1998).

**Mammals (see Toxicity section under Human Risk for additional information)**

**Cold Pressed Neem Oil**

The rat acute LD$_{50}$ was greater than 5000 mg/kg (USEPA, 2012a) or 14.09 mL/kg (13,500 mg/kg) with clinical signs observed at 10 mL/kg (9,200 mg/kg) and above (Gandhi et al., 1988). The mouse acute LD$_{50}$ was 31,950 mg/kg (Deng et al., 2013). The acute LD$_{50}$ in rabbits was 25 mL/kg (24,000 mg/kg) with mortality occurring at 10 mL/kg (9,200 mg/kg) and above (Gandhi et al., 1988). These results classify neem oil as practically nontoxic to mammals (see Ecotoxicity Classification Table above). A density of 0.922 g/mL was assumed to convert volumes to mass (USEPA, 2012a).

After 28 days of oral doses in mice, no treatment related mortality, effect on body weights, or clinical signs were observed at 1,600 mg/kg. However, pathologic changes to seminiferous tubules and spermatogenic cells were severely affected at 1,600 mg/kg and to a lesser extent at lower doses (Deng et al., 2013). In another subchronic toxicity study with mice, the 90-day LD$_{50}$ was also greater than 5,000 mg/kg (USEPA, 2012a). In another 90-day study with neem oil with azadirachtin content of 1,570 ppm, no adverse effects were observed at 5,000 mg/kg/day (Awad, 2003).

**Reptiles**

No relevant toxicity data were available for neem oil for reptiles.

**Amphibians**

No relevant toxicity data were available for neem oil for amphibians.

**Pollinators**

USEPA (2012a) claims a contact LD$_{50}$ in adult honey bees (*Apis mellifera*) of greater than 45 µg/bee. However, a review of the source of that estimate, Melathoupoulos et al. (2000), does not support that conclusion. In the cited study, bees were not dosed directly, but were exposed to cages treated with neem oil. Therefore, no relevant toxicity data were available for neem oil for pollinators.

**Soil-Dwelling Invertebrates**

No relevant toxicity data were available for neem oil for earthworms or other soil-dwelling invertebrates.

**Fish**

**Cold Pressed Neem Oil**
The acute LC50 for cold pressed neem oil (azadirachtin content 1,570 ppm) with mosquitofish (Gambusia affinis) was 70.6 ppm (Awad, 2003) classifying cold pressed neem oil as slightly toxic to fish (see Ecotoxicity Classification Table above). In short exposures of 25 minutes or less, zebrafish (Danio rerio) showed altered behavior at 0.02 ppm during any of the brief exposure periods (Bernardi et al., 2013).

Clarified Hydrophobic Extract of Neem Oil
The acute LC50 for clarified hydrophobic extract of neem oil in carp (Cyprinus carpio) was 80 µL/L (74 ppm) (Murussi et al., 2016) classifying clarified hydrophobic extract of neem oil as slightly toxic to fish (see Ecotoxicity Classification Table above). In a product with 300 ppm azadirachtin as the active ingredient, the No Observed Effect Concentration (NOEC) for mortality in fresh water loach (Lepidocephalichthys guntea) was 0.0105 ppm with the Lowest Observed Effect Concentration (LOEC) for mortality being 0.012 ppm (Mondal et al., 2007).

Aquatic Invertebrates

Cold Pressed Neem Oil
The LC50 for cold pressed neem oil (azadirachtin content 1,570 ppm) Daphnia magna was 55.7 ppm (Awad, 2003) classifying cold pressed neem oil as slightly toxic to aquatic invertebrates (see Ecotoxicity Classification Table above).

Conclusions

The ecotoxicology data for neem oil for all taxonomic groups are limited or nonexistent. The complete lack of data for amphibians, reptiles, pollinators and other listed insects and soil-dwelling invertebrates, precludes a conclusive determination of risk potential for these groups.

The limited existing toxicity data for birds suggests neem oil is slightly toxic to birds. Neem oil is practically nontoxic to mammals based on available acute toxicity information. The data for birds and mammals can likely be extrapolated to reptiles and terrestrial-phase amphibians suggesting a low potential for adverse effects for these groups as well.

Sufficient fish toxicity data exist to classify neem oil as slightly toxic to fish. The one aquatic invertebrate study suggests neem oil is slightly toxic to aquatic invertebrates. Based on the available information, the potential for adverse effects to aquatic species is low.

Adequate studies are not available to classify the toxicity of neem oil to pollinators. Azadirachtin, a component of cold pressed neem oil, also lacked sufficient data to confidently classify it toxicity to pollinators (see Azadirachtin Toxicity Summary). However, since cannabis is not attractive to pollinators, as long neem oil is not directly sprayed where pollinators occur or onto flowering plants attractive to pollinators, the potential for adverse effects to pollinators is low.
References


Environmental Fate & Toxicology Summary
Peppermint Oil
(CAS # 8006-90-4)

Introduction

Peppermint (Mentha x piperita L.) oil is the extract of peppermint known as a flavoring agent in ice cream, confectionary goods, aromatherapy, chewing gum, and personal care products (WHO, 2002; Anderson and Gross, 2004; Singh et al., 2015). Peppermint oil is primarily composed of terpenoids and flavonoids and acts through direct contact as an insecticide or as a repellent of pests (Clemson, 2005; Isman and Machial, 2006). Although the toxic mode of action of most essential oils is unclear, monoterpenes are suspected to be neurotoxic to insects and mite (Isman and Machial, 2006). As of 2016, six products were federally registered that list peppermint oil as an active ingredient (DPR, 2016). However, peppermint oil qualifies for exemption under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) section 25(b) as a minimum risk pesticide and a reduced-risk pesticide under 3 CCR 6147. Therefore, registration is not required (USEPA, 2015). Peppermint oil is often combined with other vegetable and essential oils in various pesticide end-products (CDA, 2017).

Example of Formulated Products*

Essentria® IC³ Insecticide Concentrate, Brandt Consolidated, Inc., EcoTec® (in combination with other active ingredients)*

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Commonly Targeted Pest:

Aphids, mites, whiteflies, caterpillars, scale, gnats, and ants (when combined with other vegetable and essential oils) (Brandt Consolidated, Inc., Ecotec®, 2012; Envincio™, LLC, undated)

Environmental Fate

Peppermint oil is the extract from peppermint plants which has been cultivated for thousands of years (DAFF, 2012). Peppermint oil, including its primary component, menthol, are commonly found in nature (Aflatuni, 2005). Its action as a pesticide is thought to be temporary, due to its use as a contact-pesticide. Peppermint oil is volatile, has poor water solubility, and readily degrades in the environmental (Koul et al., 2008; Tripathi et al., 2009).
**Human Risk**

**Toxicity**

Peppermint oil has a safe history of use in food, aromatherapy, and personal care products, such as perfume, cologne, and mouthwash (WHO, 2002; Anderson and Gross, 2004; Singh et al., 2015). It is exempt from registration in the United States through FIFRA Section 25(b) Minimum Risk Pesticide and in California as a reduced-risk pesticide (DPR, 1999; USEPA, 2015). One study reported rats dosed orally with 100 mg/kg-d peppermint oil for 90 consecutive days did not result in any observed physiological effects (Spindler and Madsen, 1992). No other toxicological endpoints were available for any exposure route or duration. Peppermint oil has been reported to be a dermal and eye irritant (DPR, 1999). The Food and Drug Administration (FDA) recognizes essential oils, including peppermint oil, as ‘generally safe’ (GRAS) when used as a food additive (21 CFR 182.20). In combination with eucalyptus, peppermint oil may have therapeutic effects such as improvement in cognitive function and muscle relaxation (WHO, 2002). Due to the safe history of use in food and personal care products and lack of known toxicity, there is no expectation of adverse effects to human health when used as a pesticide.

**Genotoxicity:** When peppermint oil was evaluated in an *in vitro* chromosomal aberration test, the evidence was inconclusive as to its genotoxicity (Anonymous, 2001). No further information was available regarding the genotoxic potential of peppermint oil.

**Mutagenicity:** Peppermint oil tested negative in the Ames Mutagenicity Test (Anonymous, 2001). No further information was available regarding the mutagenic potential of peppermint oil.

**Neurotoxicity:** Essential oils often exhibit insecticidal properties through a neurotoxic mode of action (Tripathi et al., 2009). The most prominent chemical constituent of peppermint oil, menthol, has been reported to block calcium channels resulting in smooth muscle relaxation and has been investigated as a treatment for damaged nerves (HSDB, 1999; Tsai et al., 2013). In the few cases of menthol toxicity, symptoms included central nervous system (CNS) depression and ataxia (HSDB, 1999), suggesting peppermint oil acts through a neurotoxic mode of action.

**Reproductive/Developmental Toxicity:** Menthol, the most prevalent component of peppermint oil, has been tested in pregnant mice, hamsters, and rabbits without observed teratogenic effects (Anonymous, 2001). Peppermint oil is not listed as a developmental toxicant on the Proposition 65 list (OEHHA, 2016). No further information was available regarding the reproductive or developmental toxicity of peppermint oil.

**Dermal Absorption Factor (DAF):** No DAF was available for peppermint oil. There is evidence the most prevalent constituent of peppermint oil, menthol, absorbs rapidly and may enhance the absorption of other agents (Anonymous, 2001).

**Carcinogenicity:** Peppermint oil is not listed as a suspected carcinogen by the World Health Organization nor is listed as a carcinogen on Proposition 65 (OEHHA, 2016; WHO, 2016). No further evidence could be located regarding the carcinogenic potential of peppermint oil.
**Skin, Eye, or Lung Irritation:** Peppermint oil can cause skin and eye irritation to sensitive individuals (DPR, 1999; Anonymous, 2001).

**Exposure**

Exposure pathways considered were ingestion, inhalation, and dermal absorption. Contact with pesticide residues may occur during pesticide mixing, loading or application or when handling treated cannabis crop. Although cultivators are not anticipated to intentionally ingest pesticide residues, incidental hand-to-mouth ingestion of pesticide residues may occur if hands are not properly washed and proper care is not taken to avoid unintentional transfer of pesticide residues on hands to mouth. Aerosolized pesticide from the use of application equipment, such as backpack sprayers, may be present and as a result, there is a potential for inhalation exposure during application. Respiration equipment is not required for all pesticide products containing peppermint oil as an active ingredient (Envincio™, LLC, undated). Because peppermint oil is volatile, it is expected to partition into the air from plants and soil post-application. Although there is the potential for dermal and eye exposure, the label requires applicators to use long-sleeved clothing, pesticide-resistant gloves, close-toed shoes with socks, and safety glasses when the peppermint oil concentration exceeds 8.5% (DPR, 1999; Envincio™, LLC, undated). Peppermint oil degrades quickly in the environment and is not expected to persist such that long-term inhalation is likely (Koul et al., 2008).

**Conclusion**

Based on available toxicity data and the history of safe as a food and personal care product, peppermint oil is not anticipated to have adverse effects on human health for any exposure pathway and duration. No acute, subchronic, or chronic endpoints have been established for any exposure pathway. Human exposure to peppermint oil as a pesticide is likely, although the use of personal protective equipment (PPE) in concentrated products mitigates the potential for dermal and eye irritation. Based on the low mammalian toxicity, safe history of use as a pesticide and in a variety of consumables and aromatherapy, peppermint oil is not anticipated to result in unacceptable risk to cultivators when applied as a pesticide in cannabis cultivation.

Cultivators applying pesticides should always read and follow the label, SDS and relevant DPR documents including the DPR Pesticide Safety Information Series (PSIS) (DPR, 2015), DPR Compliance Assistant Booklet for Employers (DPR, 2010a) and the DPR Pesticide Use Compliance Guide for Employers and Businesses (DPR, 2010b).

**Ecological Risk**

Acute ecotoxicity endpoints can be categorized from practically nontoxic to very highly toxic (see Ecotoxicity Classification Table below). Throughout the discussion of ecotoxicity results, these toxicity classes will be used.
Acute Ecotoxicity Categories for Terrestrial and Aquatic Organisms.

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Avian: Acute Oral LD$_{50}$ (mg/kg)</th>
<th>Aquatic Organisms: Acute LC$_{50}$ (ppm or mg/L)</th>
<th>Wild Mammals: Acute Oral LD$_{50}$ (mg/kg)</th>
<th>Non-Target Insects: Acute LD$_{50}$ (µg/bee)</th>
</tr>
</thead>
<tbody>
<tr>
<td>very highly toxic</td>
<td>&lt;10</td>
<td>&lt;0.1</td>
<td>&lt;10</td>
<td></td>
</tr>
<tr>
<td>highly toxic</td>
<td>10-50</td>
<td>0.1 - 1</td>
<td>10 - 50</td>
<td>&lt;2</td>
</tr>
<tr>
<td>moderately toxic</td>
<td>51-500</td>
<td>&gt;1 - 10</td>
<td>51 - 500</td>
<td>2 - 11</td>
</tr>
<tr>
<td>slightly toxic</td>
<td>501-2000</td>
<td>&gt;10 - 100</td>
<td>501 - 2000</td>
<td></td>
</tr>
<tr>
<td>practically nontoxic</td>
<td>&gt;2000</td>
<td>&gt;100</td>
<td>&gt;2000</td>
<td>&gt;11</td>
</tr>
</tbody>
</table>

Taken from USEPA, 2012a

1 LD$_{50}$ is the median lethal dose at which 50% of the test animals die from the treatment
2 LC$_{50}$ is the median lethal concentration at which 50% of the test animals die from the treatment

Birds

Chicks starting at one-day-old were fed diet containing 250 ppm for 42 days as a dietary supplement with no beneficial or detrimental effects noted (Akbari and Torki, 2014). This information is insufficient to classify the toxicity of peppermint oil to birds.

Mammals (see Toxicity section under Human Risk for additional information)

Dosing rats via stomach intubation resulted in a 48-hr LD$_{50}$ of 2,426 mg/kg. Fifty percent mortality occurred in the lowest dose group of 1,804 mg/kg (Eickholt and Box, 1965), so this is not a reliable estimate of acute oral toxicity.

Juvenile rats were dosed daily for 28 days via gavage with peppermint oil with a content of 38.1% menthol, 33.7% menthone and 1.7% pulegone. No effects that could be attributed to dosing with peppermint oil were observed on the clinical appearance of the rats. There was no difference in the body weight or food consumption between the groups. Rats receiving 40 or 100 mg/kg-d showed histological alterations of the brain. The No Observed Effect Level (NOEL) based on mortality is 100 mg/kg-d, but the Lowest Observed Effect Level (LOEL) based on brain histology is 10 mg/kg-d (Thorup et al., 1983)

Young adult rats were dosed orally with peppermint oil consisting of 42% menthol, 25% menthone, 7% iso-menthone, 1.5% limonene, 1.4% cineole and 1.1% pulegone. They were dosed via gavage daily for 90 days with a highest dose of 100 mg/kg-d. No effects on the clinical appearance of the rats were observed that could be attributed to dosing with peppermint oil. There was no difference in body weight or food consumption between the groups, but some histological changes were observed in brain and kidneys in higher dose groups. The NOEL was determined 100 mg/kg-d for mortality, but the Lowest Observed Adverse Effect Level (LOAEL) based on kidney histological changes was 40 mg/kg-d (Spindler and Madsen, 1992).

Reptiles

No relevant toxicity data were available for peppermint oil for reptiles.
Amphibians

No relevant toxicity data were available for peppermint oil for amphibians.

Pollinators

Various pollinators and flower-visiting insects and ground arthropods were monitored following application of Eco-Exempt IC2 manufactured by EcoSMART Technologies, Inc., Roswell, GA, a minimum-risk botanical pesticide with active ingredients 10% rosemary oil, 2% peppermint oil, and 88% other ingredients (wintergreen oil, mineral oil, and vanillin). The ground-dwelling arthropods were more greatly impacted than pollinators flying in to visit flowers because the ground-dwelling arthropods experienced greater exposure (Elias et al., 2013).

Soil-Dwelling Invertebrates

No relevant toxicity data were available for peppermint oil for earthworms or other soil-dwelling invertebrates.

Fish

No relevant toxicity data were available for peppermint oil for fish.

Aquatic Invertebrates

No relevant toxicity data were available for peppermint oil for aquatic invertebrates.

Conclusions

The ecotoxicology data for all taxonomic groups for peppermint oil are limited or nonexistent. The complete lack of data for amphibians, reptiles, soil-dwelling invertebrates, and aquatic species precludes a conclusive determination of risk potential for these groups. However, the low potential for risk in other terrestrial groups suggests there is not likely a high potential for adverse effects in these groups.

The toxicity data for birds and mammals were not sufficient to assign a toxicity category for peppermint oil. The one study for birds did not document any adverse effects, but its dietary concentration of only 250 ppm does not approach the maximum dietary concentration of 5000 ppm indicated the United States Environmental Protection Agency (USEPA) (2012b) guideline for a dietary toxicity test. The acute toxicity test for mammals showed 50 percent mortality or greater in all dose groups so cannot be used to assign a toxicity category for mammals. The other toxicity tests did not result in mortality, but the highest dose of 100 mg/kg-d is not sufficiently high to suggest lack of toxicity. While no evidence exists that applications of peppermint oil will result in adverse effects in terrestrial vertebrates, the existing information does not adequately assess the toxicity of peppermint oil to definitively determine that the potential for adverse effects following applications of peppermint oil in cannabis cultivation will truly be low.
Since the one study investigating pollinator and other insects following an application of a peppermint oil-containing pesticide indicated a possibility of adverse effects for pollinator and other insects, peppermint oil should not be applied when pollinators are present or allowed to drift to flowers attractive to pollinators following applications of peppermint oil as a pesticide in cannabis cultivation.

The complete lack of aquatic toxicity data dictates the precaution that peppermint oil not be allowed to drift to or otherwise move to surface waters following applications of peppermint oil in cannabis cultivation.

References


Environmental Fate & Toxicology Summary
Potassium Bicarbonate and Sodium Bicarbonate
(CAS # 298-14-6, 144-5-8)

Introduction

Potassium bicarbonate and sodium bicarbonate, commonly known as bicarbonate salts, are naturally occurring chemicals permitted for use as a fungicide on food commodities, turf, flowers, and ornamental plants (USEPA, 1999; Brodie and Godber, 2007). They are required for normal biochemical and physiological function in nearly all life and are found in many consumer products (USEPA, 2012a). Bicarbonate salts were first registered in 1994 and as of 2012, 9 products are registered with bicarbonate salts listed as the active ingredient on food crops (USEPA, 2012a). As a pesticide, these compounds are diluted with water and directly applied to foliage using ground equipment (USEPA, 1999). Although the mode of action for bicarbonate salts is not entirely clear, they are suspected to disrupt cell wall membranes in mildew spores when direct contact occurs (Kuepper, 2001).

Example of Formulated Products*

Kaligreen®, Agricure®, Bi-Carb Old Fashioned Fungicide (DPR, 2017a)

*Reference to any specific product is for informational purposes only and does not constitute an endorsement or recommendation. Always read and follow label directions. If a label is unavailable, follow guidance in the product’s Safety Data Sheet (SDS) and/or in one or more of the following DPR documents: Pesticide Safety Information Series (PSIS); Compliance Assistance Booklets for Employers; and Pesticide Use Compliance Guide for Employers and Businesses.

Commonly Targeted Pest:

Fungal diseases of plants, such as powdery mildew and black spot (Kuepper, 2001; USEPA, 1999; DPR, 2017b)

Environmental Fate

Bicarbonates are found inherently and ubiquitously throughout the environment in soil, water, and rocks, and are critical for plant function (USEPA, 2012a). Bicarbonate salts degrade rapidly in the environment and are expected to have minimal persistence (USEPA, 2012a).

Human Risk

Toxicity

Acute toxicity endpoints can be categorized from lowest toxicity to highest toxicity as shown in the table below. Throughout the discussion of human toxicity, these classifications will be referenced.
Acute Toxicity Categories for Human

<table>
<thead>
<tr>
<th></th>
<th>Acute Oral LD$_{50}$</th>
<th>Acute Inhalation LC$_{50}$</th>
<th>Acute Dermal LD$_{50}$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Toxicity Category I</strong></td>
<td>≤ 50 mg/kg</td>
<td>≤ 0.2 mg/L</td>
<td>≤ 200 mg/kg</td>
</tr>
<tr>
<td>(highest toxicity)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Toxicity Category II</strong></td>
<td>&gt; 50 - 500 mg/kg</td>
<td>&gt; 0.2 - 2 mg/L</td>
<td>&gt; 200 - 2000 mg/kg</td>
</tr>
<tr>
<td>(moderately toxic)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Toxicity Category III</strong></td>
<td>&gt; 500 - 5,000 mg/kg</td>
<td>&gt; 2 - 20 mg/L</td>
<td>&gt; 2000 - 20,000 mg/kg</td>
</tr>
<tr>
<td>(slightly toxic)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Toxicity Category IV</strong></td>
<td>&gt; 5000 mg/kg</td>
<td>&gt; 20 mg/L</td>
<td>&gt; 20,000 mg/kg</td>
</tr>
<tr>
<td>(lowest toxicity)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reference: 40 CFR 156.62
1. LD$_{50}$ is the median lethal dose at which 50% of the test animals die from the treatment
2. LC$_{50}$ is the median lethal concentration at which 50% of the test animals die from the treatment

Bicarbonate salts are well known for their role in biological function and use as a leavening agent in consumables. Acute, oral studies have investigated doses of potassium bicarbonate up to 3,800 mg/kg in rats without reporting adverse effects, indicating that potassium bicarbonate may be Toxicity Category III (slightly toxic) or Toxicity Category IV (lowest toxicity); however, no studies were available evaluating toxicity at higher doses to definitively categorize potassium bicarbonate oral toxicity. The acute oral LD$_{50}$ of sodium bicarbonate in rats is greater than 5,000 mg/kg, placing it in Toxicity Category IV (lowest toxicity) through this route of exposure (OECD, 2002; USEPA, 2012a). The acute inhalation toxicity of potassium bicarbonate and sodium bicarbonate have been investigated at doses up to 2.3 and 4.7 mg/L, respectively, in rats. No deleterious effects were reported (OECD, 2002; USEPA, 2012a). Therefore, both bicarbonate salts are classified in Toxicity Category III for this exposure pathway. Both bicarbonate salts are classified in Toxicity Category III (slightly toxic) through the acute dermal pathways due to LD$_{50}$ values estimated to be greater than 2,000 mg/kg body weight in rabbits (USEPA, 2012a). Bicarbonate salts may cause slight skin and eye irritation. However, studies reported symptoms of skin irritation cleared within 2 days and eye irritation cleared within 3 to 7 days (USEPA, 2012a). No acute, subchronic, or chronic toxicological No Observed Adverse Effect Levels (NOAELs) have been established for any exposure pathway considered. Potassium bicarbonate and sodium bicarbonate are generally recognized as safe (GRAS) by the FDA under 21 CFR 184.1613 and 21 CFR 184.1736, respectively, because of their ubiquity in nature, the lack of known adverse effects, presence in food products, and role in the biological function of living organisms (USEPA, 1999; 2012a; Brodie and Godber, 2007). Therefore, potassium and sodium bicarbonate are not anticipated to result in adverse human health effects when used as pesticides.

No human health incidents have been reported in California agricultural settings between 1992 and 2014 in which potassium bicarbonate or sodium bicarbonate were the active ingredient involved (DPR, 2017c).
**Genotoxicity:** Sodium bicarbonate was found to test negative in *in vitro* chromosomal aberration tests (OECD, 2002). In addition, the safe history of use suggests adverse genotoxic effects are not anticipated when bicarbonate salts are used as pesticides.

**Mutagenicity:** Current scientific literature indicates that bicarbonate salts do not have significant mammalian toxicity (USEPA, 1999; 2012a). Sodium bicarbonate was not found to be mutagenic in *in vitro* Ames tests when applied at six doses, up to 10 mg/plate (OECD, 2002). In addition, the safe history of use suggests adverse mutagenic effects are not anticipated when bicarbonate salts are used as pesticides.

**Neurotoxicity:** The mechanism of action of bicarbonate salts in humans is not known to be neurotoxic. No literature was located that indicates sodium or potassium bicarbonate have adverse neurotoxic effects to human health.

**Reproductive/Developmental Toxicity:** Studies investigating the developmental and reproductive toxicity of acute exposure to sodium bicarbonate in rats, mice, and rabbits reported negative results at doses up to 580 mg/kg body weight (Health Canada, 2006). Subchronic exposure of 340 mg/kg-d sodium bicarbonate to pregnant rats over 10 days or 330 mg/kg-d over 13 days to pregnant rabbits did not result in an increase of fetal abnormalities (FDRL, 1974). The 1996 Food Quality Protection Act (FQPA) requires the United States Environmental Protection Agency (USEPA) screen pesticide chemicals for their potential to cause endocrine disruption. The USEPA program that addresses the screening of pesticides for endocrine disruption is known as the Endocrine Disruption Screening Program (EDSP) (USEPA, 2016). Bicarbonate salts were not considered priority compounds to evaluate and were dismissed due to the unlikelihood either bicarbonate salt would produce an effect analogous to naturally occurring hormones (USEPA, 2012a). Because of their history of safe use, neither bicarbonate salts is anticipated to result in adverse reproductive or development toxic effects. Potassium and sodium bicarbonate are not listed as developmental toxicants on the Proposition 65 list (OEHHA, 2016).

**Dermal Absorption Factor (DAF):** No DAF was available for either bicarbonate salt.

**Carcinogenicity:** Current scientific literature indicates that bicarbonate salts do not have significant mammalian toxicity (USEPA, 1999; 2012a). Carcinogenicity studies in male rats fed sodium bicarbonate for 104 weeks did not result in a significant increase in tumors upon gross necropsy (OECD, 2002). In addition, the safe history of use suggests adverse carcinogenic effects are not anticipated when bicarbonate salts are used as pesticides. Neither bicarbonate salt is listed as a suspected carcinogen by the World Health Organization nor is listed as a carcinogen on Proposition 65 (OEHHA, 2016; WHO, 2016).

**Skin, Eye, or Lung Irritation:** Slight skin irritation has been reported in studies investigating sodium bicarbonate. However, potassium bicarbonate is not known to elicit dermal irritation (USEPA, 2012a). Both bicarbonate salts were found to cause slight eye irritation, including iritis and conjunctival redness/irritation. Bicarbonate salts are not implicated as a dermal sensitizer (USEPA, 2012a).
**Exposure**

Exposure pathways considered were ingestion, inhalation, and dermal absorption. Contact with pesticide residues may occur during pesticide mixing, loading or application or when handling treated cannabis crop. Although cultivators are not anticipated to intentionally ingest pesticide residues, incidental hand-to-mouth ingestion of pesticide residues may occur if hands are not properly washed and proper care is not taken to avoid unintentional transfer of pesticide residues on hands to mouth. Aerosolized pesticide from the use of application equipment, such as backpack sprayers, may be present and as a result, there is a potential for inhalation exposure during application. The volatility of the sodium bicarbonate is expected to be negligible (OECD, 2002). Therefore, post-application inhalation exposure from volatilized pesticide from foliage is not anticipated. Dermal contact to bicarbonate salts is reduced when coveralls, chemical-resistant gloves, and eye protection are used as instructed on the label.

**Conclusion**

Based on available toxicity data, the use of bicarbonate salts as a pesticide is not anticipated to have adverse effects on human health for any exposure pathway. No NOAELs were established for any exposure route or duration considered. Due to the low mammalian toxicity, history of safe use, and ubiquity in nature, bicarbonate salts are not anticipated to result in unacceptable risk to cultivators when applied as a pesticide in cannabis cultivation.

Cultivators applying pesticides should always read and follow the label, SDS and relevant DPR documents including the DPR Pesticide Safety Information Series (PSIS) (DPR, 2015), DPR Compliance Assistant Booklet for Employers (DPR, 2010a) and the DPR Pesticide Use Compliance Guide for Employers and Businesses (DPR, 2010b)

**Ecological Risk**

Acute ecotoxicity endpoints can be categorized from practically nontoxic to very highly toxic (see Ecotoxicity Classification Table below). Throughout the discussion of ecotoxicity results, these toxicity classes will be used.

**Acute Ecotoxicity Categories for Terrestrial and Aquatic Organisms.**

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Avian: Acute Oral LD₅₀ (mg/kg)</th>
<th>Aquatic Organisms: Acute LC₅₀ (ppm or mg/L)</th>
<th>Wild Mammals: Acute Oral LD₅₀ (mg/kg)</th>
<th>Non-Target Insects: Acute LD₅₀ (µg/bee)</th>
</tr>
</thead>
<tbody>
<tr>
<td>very highly toxic</td>
<td>&lt;10</td>
<td>&lt;0.1</td>
<td>&lt;10</td>
<td></td>
</tr>
<tr>
<td>highly toxic</td>
<td>10-50</td>
<td>0.1 - 1</td>
<td>10 - 50</td>
<td>&lt;2</td>
</tr>
<tr>
<td>moderately toxic</td>
<td>51-500</td>
<td>&gt;1 - 10</td>
<td>51 - 500</td>
<td>2 - 11</td>
</tr>
<tr>
<td>slightly toxic</td>
<td>501-2000</td>
<td>&gt;10 - 100</td>
<td>501 - 2000</td>
<td></td>
</tr>
<tr>
<td>practically nontoxic</td>
<td>&gt;2000</td>
<td>&gt;100</td>
<td>&gt;2000</td>
<td>&gt;11</td>
</tr>
</tbody>
</table>

Taken from USEPA, 2012b

1 LD₅₀ is the median lethal dose at which 50% of the test animals die from the treatment
2 LC₅₀ is the median lethal concentration at which 50% of the test animals die from the treatment
Birds

**Sodium Bicarbonate**
Excessive sodium bicarbonate can cause visceral and articular gout in chickens and turkeys (Bullis and Van Roekel, 1944). Two-week-old and four-week-old chickens received 2,000 ppm, 7,500 ppm, 20,000 ppm, and 40,000 ppm sodium bicarbonate via their drinking water for 35 days. The highest two dose groups developed visceral gout and impacts to kidney and urinary tract. The No Observed Adverse Effect Concentration (NOAEC) for mortality, body weight, and clinical signs is 2,000 ppm and the Lowest Observed Adverse Effect Concentration (LOAEC) is 7,500 ppm in drinking water (Mubarak and Sharkawy, 1999; Ejaz et al., 2005). In chickens, concentrations of 44,000 ppm in the diet for 4 days had some slight impacts on blood chemistry and kidney function, but no effects on egg laying or body weight (Davison and Wideman, 1992).

**Potassium Bicarbonate**
Chickens were provided potassium bicarbonate for 42 days at a concentration of 5,000 ppm starting at 28 days old or at concentrations of 1,000 or 3,000 ppm starting at 21 days old. None of the treatments caused mortality, but 5,000 ppm in the drinking water caused reduced body weights (Shlosberg et al., 1998).

Mammals (see Toxicity section under Human Risk for additional information)

**Sodium Bicarbonate**
The acute oral LD$_{50}$ in rats for sodium bicarbonate ranged from 4,220 to 8,290 mg/kg body weight (OECD, 2002) indicating sodium bicarbonate is practically nontoxic to mammals (see Ecotoxicity Classification Table above). Daily doses of up to 330 mg/kg-d during days 6 – 15 of gestation in mice and rabbits caused no mortality or teratogenic effects and had no effect on body weights. There were possibly minor effects on pregnancy rate (FDRL, 1974).

**Potassium Bicarbonate**
When rats received potassium bicarbonate at 2 or 4 percent in their diet for 4 or 13 weeks, there was no mortality and no effects on body weight. When fed the same diets for 18 months, there again was no treatment-related mortality, but body weight was reduced in males receiving the 4 percent diet. When fed the same diets for 30 months, again there was no treatment-related mortality, but there were reduced body weights in males and females receiving the 4 percent diet and for various periods for females receiving the 2 percent diet. Some rats also exhibited adverse effects to the kidney and bladder (Lina and Kuijpers, 2004).

Sheep fed diets with 5 percent added potassium bicarbonate for 62 days experienced reduced feed intake and reduced weight gain (Kunkel et al., 1953).

**Reptiles**
No relevant toxicity data were available for potassium or sodium bicarbonate for reptiles.
Amphibians

The LC50 of sodium bicarbonate for African clawed frog (*Xenopus laevis*) was 1,940 ppm (Harper et al., 2014), so sodium bicarbonate would be considered practically nontoxic to aquatic-phase amphibians (see Ecotoxicity Classification Table above).

Pollinators

*Sodium Bicarbonate*

The contact LD50 of sodium bicarbonate for the honey bee (*Apis mellifera*), was greater than 24 µg/bee with a No Observed Effect Level (NOEL) of 24 µg/bee (OECD, 2002). Sodium bicarbonate would be considered practically nontoxic to honey bees (see Ecotoxicity Classification Table above).

*Potassium Bicarbonate*

Directly spraying bumble bees (*Bombus impatiens*) with 10, 100 or 1,000 ppm potassium bicarbonate (Milstop®; Bioworks, Victor, NY) solution did not cause mortality or reduce worker life span or the amount of pollen consumed (Gradish et al., 2010).

Soil-Dwelling Invertebrates

No relevant toxicity data were available for sodium and potassium bicarbonate for earthworms or other soil-dwelling invertebrates.

Fish

*Sodium Bicarbonate*

The acute LC50 for a number of species were determined for sodium bicarbonate to be: white sucker (*Catostomus commersoni*) greater than 3,200 ppm, pallid sturgeon (*Scaphirhynchus albus*)—1,295 to 1,356 ppm depending on the water source, shovelnose sturgeon (*Scaphirhynchus platorynchus*)—1,430 ppm, fathead minnow (*Pimephales promelas*)—1,749 to 2,078 ppm, walleye (*Sander vitreus*) greater than 3,200 ppm, northern pike (*Esox lucius*) greater than 3,200 ppm, rainbow trout (*Oncorhynchus mykiss*)—7,700 ppm, and bluegill sunfish (*Lepomis macrochirus*)—7,100 ppm (OECD, 2002; Harper et al., 2014). These results indicate sodium bicarbonate is practically nontoxic to fish (see Ecotoxicity Classification Table above).

Exposure of fathead minnows to sodium bicarbonate for 7 days caused mortality at 1,100 ppm, but not at 800 ppm with body weights reduced at 625 ppm and above. Longer exposures of fathead minnows to sodium bicarbonate for 60 days caused mortality at concentrations of 500 ppm or greater with growth and body weight reduced at 450 ppm. The No Observed Effect Concentration (NOEC) for a 7-day exposure was 300 ppm with the Lowest Observed Effect Concentration (LOEC) 625 ppm based on body weight, and the NOEC for a 60-day exposure was 400 ppm with the LOEC 450 ppm based on reduced body weight (Farag and Harper, 2014).
Survival of white suckers was unaffected by exposure to up to 1,400 ppm sodium bicarbonate for 63 days, but growth (length and weight) were reduced at all concentrations of 450 ppm and above (Farag and Harper, 2014).

When fathead minnow and pallid sturgeon were held in enclosures for 96 hours in streams with elevated concentrations of sodium bicarbonate, field sites with water concentrations that exceeded the LC$_{50}$ also showed reduced survival in 2 day old fathead minnows and pallid sturgeon (Farag et al., 2014). The results of this study suggest that the laboratory test results are reflective of adverse effects in the field.

**Potassium Bicarbonate**
The LC$_{50}$ for potassium bicarbonate with mosquitofish (*Gambusia affinis*) was 7,550 ppm (Wallen et al., 1957) indicating potassium bicarbonate is practically nontoxic to fish (see Ecotoxicity Classification Table above)

**Aquatic Invertebrates**

**Sodium Bicarbonate**
The acute LC$_{50}$ or EC$_{50}$* for a number of species were determined for sodium bicarbonate to be: chironomids (*Chironomus dilutus*) greater than 3,200 ppm, tubifex worms (*Tubifex tubifex*) greater than 3,200 ppm, amphipods (*Hyalella azteca*)—1,419 ppm, freshwater mussels (*Lampsilis siliquoidea*)—1,120 ppm, and *Ceriodaphnia dubia*—989 to 1,355 ppm depending on the water source (OECD, 2002; Farag and Harper, 2014). These results indicate sodium bicarbonate is practically nontoxic to aquatic invertebrates (see Ecotoxicity Classification Table above).

The 10-day EC$_{50}$ for newly transformed juvenile freshwater mussel, (*Lampsilis siliquoidea*) was 1,061 ppm (Harper et al., 2014). In a 21-day test, *Daphnia magna* had a NOEC greater than 576 based on survival and number of offspring (OECD, 2002). Reproduction of *C. dubia* was reduced at concentrations of 500 ppm sodium bicarbonate or greater (Farag and Harper, 2014). The nematode *Caenorhabditis elegans* tolerated concentrations of sodium bicarbonate from 236 to 246 ppm (Khanna et al., 1997).

**Conclusions**

The ecotoxicology data for many taxonomic groups for sodium and potassium bicarbonate are limited or nonexistent. The complete lack of data for reptiles and soil-dwelling invertebrates precludes a conclusive determination of risk potential for these groups. However, the low potential for risk in other taxonomic groups suggests there is not likely a high potential for adverse effects in these three groups. Although there were not always acute toxicity tests on which to classify sodium and potassium bicarbonate as practically nontoxic, the available information indicates that sodium and potassium bicarbonate exhibit very low toxicity to all ecological receptors.

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*EC$_{50}$ is the effective concentration at which an adverse effect is noted in 50% of the test organisms. For aquatic invertebrates it can be difficult to determine mortality, so an EC$_{50}$ based on immobility is often reported.*
References


Environmental Fate & Toxicology Summary
Potassium Silicate
(CAS # 1312-76-1)

Introduction

Potassium silicate, also referred to as potassium polysilicate, is the potassium salt of silicic acid. As an inorganic salt, potassium silicate is composed of two charged, water soluble ions – positively charged potassium cations and negatively charged silicate anions. When dissolved in water, potassium silicate dissociates into potassium cations, hydroxide anions, and mono- and polysilicic acids (USEPA, 2007). When not solubilized in water, potassium silicate is a white, odorless solid compound. Note that soluble silicates are generally not distinct stoichiometric chemical substances, lacking a specific chemical formula or molecular weight, but exist rather as glasses or aqueous solution of glasses (HERA, 2005). For purposes of this ingredient evaluation, the general chemical formula for potassium silicate may be expressed as K₂O·nO₂Si.

Soluble silicates, such as potassium silicate, are ubiquitous within the environment with numerous natural and manmade sources. As the second most abundant element on earth, silica comprises roughly 59% of the earth’s crust in the form of silicon dioxide, and silicic acid salts such as potassium silicate are the most common form of silicon (HERA, 2005; USEPA, 2007). Through geochemical weathering processes, it is estimated that silica is introduced into the environment at a rate of approximately 2,000 kg/km² each year, making it the predominant source of background silica concentrations observed in sediments, soils, and waters (UNEP, 2004; USEPA, 2007). Potassium and silica also serve as essential nutrients for a wide variety of organisms and may be found in organic matter, including plants, animals, and humans (USEPA, 2007).

Anthropogenic sources of soluble silicates also exist, with worldwide production volumes reaching approximately 3-4 million metric tons per year (UNEP, 2004). Environmental emissions and release of manmade soluble silicates may take place during production, processing, or use of materials containing silicates. Due to their versatile properties, soluble silicates such as potassium silicate are used in a broad range of applications, including coatings, binders, household detergents and cleaners, pulp, paper, and building construction (UNEP, 2004). Solutions of potassium silicate are also used to aid in preventing corrosion in potable water systems (USEPA, 2007). Despite these numerous environmental inputs, anthropogenic sources of potassium silicate comprise only a minor fraction of the total environmental inputs compared to the natural silica cycle (HERA, 2005; UNEP, 2004; USEPA, 2007).

Potassium silicate is also used as a pesticide. When used as a pesticide, potassium silicate features multiple modes of action and serves multiple benefits to the treated plants (USDA, 2014; Guntzer et al., 2012). When aqueous potassium silicate is applied to plant foliage, the dissolved silica is readily absorbed by plants. Once absorbed, plants may concentrate the silica in their tissues, forming silicon matrices that act as physical barriers to pests. These physical barriers help prevent infection from pathogenic fungi and various parasitic insects as the pests encounter difficulty penetrating the silicon barrier.
Potassium silicate also serves as a desiccant (USEPA, 2007; Sil-MATRIX® Tech Sheet, 2016). As foliar sprays of potassium silicate pesticides dry, the potassium silicate that is not absorbed by the plant forms a layer of dry, amorphous silicon crystals on plant surfaces. These crystals physically damage the exoskeleton of parasitic arthropods, such as mites, who come into contact with them. The damage to the exoskeletons leads to water loss and eventually death.

In addition to aiding in physical protection from pests, aqueous potassium silicate promotes plant health by providing essential nutrients. Potassium is required for growth and health of plants and serves a critical role in enzyme activation and maintaining cellular osmotic equilibrium (USEPA, 2007; Johnston, 2003). Soluble silicates also serve as a plant nutrient, aiding in growth and water management, improving structural integrity, and a variety of other beneficial effects (USDA, 2014).

As of 2017, one pesticide product is registered for use within California containing the active ingredient potassium silicate (DPR, 2017). Potassium silicate products are available in liquid form and applied using conventional spray application equipment.

**Example of Formulated Products**

Sil-MATRIX®

*Reference to any specific product is for informational purposes only and does not constitute an endorsement or recommendation. Always read and follow label directions. If a label is unavailable, follow guidance in the product’s Safety Data Sheet (SDS) and/or in one or more of the following DPR documents: Pesticide Safety Information Series (PSIS); Compliance Assistance Booklets for Employers; and Pesticide Use Compliance Guide for Employers and Businesses.

**Commonly Targeted Pest:**

Powdery mildew, mites, aphids (USEPA, 2017)

**Environmental Fate**

Once released into the environment, potassium silicate is incorporated into sediment, soil, biota, and surface and ground water (UNEP, 2004; HERA, 2005; USEPA, 2007). Due their chemical structure and inorganic nature, neither potassium nor soluble silicates are amenable to biodegradation or photodegradation (UNEP, 2004; HERA, 2005). Emission of soluble silicates into the atmosphere are not expected due to its extremely low vapor pressure (HERA, 2005). Once released into aquatic compartments, potassium silicate dissociates, giving rise to molecular species indistinguishable from natural dissolved silica or potassium (HERA, 2005).

Although silica is resistant to degradation, silica and potassium are continuously removed from the environment through biochemical processes and sedimentation. Both potassium and silica serve as vital nutrients for living organisms and are uptaken and absorbed by both plant and animal life (USEPA, 2005). In aqueous environments, diatoms, radiolarians, silicoflagellates,
and certain sponges serve as an especially significant sink for silica, incorporating the silica into their shells and skeletons (HERA, 2005).

**Human Risk**

**Toxicity**

Acute toxicity endpoints can be categorized from lowest toxicity to highest toxicity as shown in the table below. Throughout the discussion of human toxicity, these classifications will be referenced.

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<tr>
<th>Toxicity Category</th>
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<th>Acute Inhalation LC$_{50}$</th>
<th>Acute Dermal LD$_{50}$</th>
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<tr>
<td><strong>Toxicity Category I</strong> (highest toxicity)</td>
<td>≤ 50 mg/kg</td>
<td>≤ 0.2 mg/L</td>
<td>≤ 200 mg/kg</td>
</tr>
<tr>
<td><strong>Toxicity Category II</strong> (moderately toxic)</td>
<td>50 - 500 mg/kg</td>
<td>&gt;0.2 - 2 mg/L</td>
<td>&gt;200 - 2000 mg/kg</td>
</tr>
<tr>
<td><strong>Toxicity Category III</strong> (slightly toxic)</td>
<td>&gt;500 - 5,000 mg/kg</td>
<td>&gt;2 - 20 mg/L</td>
<td>&gt;2000 - 20,000 mg/kg</td>
</tr>
<tr>
<td><strong>Toxicity Category IV</strong> (lowest toxicity)</td>
<td>&gt;5000 mg/kg</td>
<td>&gt; 20 mg/L</td>
<td>&gt;20,000 mg/kg</td>
</tr>
</tbody>
</table>

Reference: 40 CFR 156.62
1. LD$_{50}$ is the median lethal dose at which 50% of the test animals die from the treatment
2. LC$_{50}$ is the median lethal concentration at which 50% of the test animals die from the treatment

Although routine exposure to potassium silicate occurs due to its ubiquitous nature in the environment, toxic effects have not been observed (USEPA, 2007). This observation of the overall extremely low toxicity of potassium silicate is corroborated through laboratory studies of both technical grade and end-use pesticide products containing potassium silicate.

Acute oral toxicity studies of technical grade potassium silicate (80-85% potassium silicate powder) showed no toxicity in rats at the highest dose tested of 2,000 mg/kg, categorizing it as Toxicity Category III (slightly toxic) through oral exposure (USEPA, 2007). In acute inhalation rat studies using 40% silica gel, no animal mortality or lung damage was observed from inhalation exposure to technical grade silicon dioxide or silicates, categorizing them as Toxicity Category IV (lowest toxicity) through inhalation exposure. The acute dermal toxicity has been estimated to moderate to low toxicity for technical grade silica gel at the maximum dose tested. Based on the available dermal toxicity data, the USEPA categorized potassium silicate as Toxicity Category IV through the dermal pathway (USEPA, 2007).
When formulated as a pesticide, potassium silicate is less toxic than its concentrated, technical grade counterparts (USEPA, 2007). The acute oral LD$_{50}$ has been estimated to be >5,000 mg/kg (29% aqueous potassium silicate end use fungicide/insecticide) in rats, categorizing potassium silicate as Toxicity Category IV (lowest toxicity) for oral exposure. The inhalation LD$_{50}$ has been estimated at >2.06 mg/L (29% potassium silicate aqueous solution) in rats, categorizing it as Toxicity Category IV (lowest toxicity) through inhalation exposure. The acute dermal LD$_{50}$ has been estimated at >5,000 mg/kg (29% aqueous potassium solution) in rats, categorizing potassium silicate as Toxicity Category IV (lowest toxicity) through dermal exposure.

Considering the available toxicity and historical data concerning potassium silicates, the USEPA concluded that potassium silicate is practically non-toxic to mammals, including sensitive subpopulations such as infants and children (USEPA, 2007). Additionally, the Joint FAO/WHO Expert Committee concluded that the available toxicity data substantiate the biological inertness of silicate compounds such as potassium silicate (WHO, 1973). In humans, any absorbed silicate is excreted by the kidneys without evidence of toxic accumulation. The USEPA (2007) concludes that, due to its lack of toxicity, cumulative effects from common mechanisms of toxicity are not possible for potassium silicate.

**Genotoxicity:** The available data indicates that potassium silicates are biologically inert and unlikely to be a genotoxic concern (WHO, 1973; UNEP, 2004; USEPA, 2007).

**Mutagenicity:** The available data indicates that potassium silicates are biologically inert and unlikely to be a mutagenic concern (WHO, 1973; UNEP, 2004; USEPA, 2007).

**Neurotoxicity:** The mechanism of potassium silicate toxicity to humans is not known to be neurotoxic and it does not belong to a class of chemicals with a neurotoxic mechanism of action.

**Reproductive/Developmental Toxicity:** None of the available information for potassium silicate indicates that it has estrogenic or endocrine altering effects on humans (USEPA, 2007). There are no known related chemicals to potassium silicate that are known to act as endocrine disruptors.

**Dermal Absorption Factor (DAF):** No DAF was available for potassium silicate. However, dermal bioavailability of potassium silicate is expected to be limited due to a combination of moderate to high water solubility, very low lipophilicity, and the molecular size of soluble silicates (HERA, 2005)

**Carcinogenicity:** The available evidence does not indicate that potassium silicates are carcinogenic (WHO, 1973; UNEP, 2004; USEPA, 2007).

**Skin, Eye, or Lung Irritation:** The degree of irritation experienced from potassium silicate and silicates is dependent on the concentration and whether it is in dust or solubilized form (HERA, 2005; USEPA, 2007). Aqueous concentrated technical grade potassium silicate and sodium silicate powder are ocular irritants (Toxicity Category III), while >80% concentration technical grade potassium silicate is corrosive to the eye (Toxicity Category I). In skin sensitization tests,
laundry products containing 6% sodium silicate and 30% sodium silicate were identified as non-sensitizing (Toxicity Category IV).

Pesticide formulations of potassium silicate are less irritating than their concentrated, technical grade counterparts (USEPA, 2007). Pesticide formulations of aqueous potassium silicate (unknown percentage) caused eye irritation that cleared within 7 days (Toxicity Category III). The same products were also identified as being a slight dermal irritant with irritation clearing within 72 hours (Toxicity Category IV). Potassium silicate pesticide formulations were identified as not sensitizing in skin sensitization tests (Toxicity Category IV).

Exposure

Exposure pathways considered were ingestion, inhalation, and dermal absorption. Contact with pesticide residues may occur during pesticide mixing, loading or application or when handling treated cannabis crop. Although cultivators are not anticipated to intentionally ingest pesticide, incidental hand-to-mouth ingestion of pesticide residues may occur if hands are not properly washed and proper care is not taken to avoid unintentional transfer of pesticide residues on hands to mouth. Aerosolized pesticide from the use of application equipment, such as backpack sprayers, may be present and as a result, there is a potential for inhalation exposure during application. Because of potassium silicate’s low vapor pressure, post-application inhalation exposure is anticipated to be de minimis. Dermal bioavailability of potassium silicate is expected to be limited due to a combination of moderate to high water solubility, very low lipophilicity, and the molecular size of soluble silicates (HERA, 2005). In addition, PPE (long-sleeved shirts, long pants, socks, shoes, and gloves) is required when handling potassium silicate based products, further reducing exposure (USEPA, 2007). Treated areas are subject to a 4 hour re-entry interval (REI) following applications. When personal protection equipment is utilized and REIs are observed in compliance with the label, exposure to potassium silicate as a pesticide is significantly reduced.

Conclusion

Based on available toxicity data and the extensive history of exposure to potassium silicates without harm, use of potassium silicate as a pesticide is not anticipated to have adverse effects on human health for any exposure pathway. Oral, dermal, and inhalation toxicity tests of potassium silicate pesticides showed no toxicity (Toxicity Category IV). Due to its lack of toxicity, cumulative effects are not anticipated when potassium silicate is used as a pesticide. Although there is potential for human exposure to potassium silicate when used as a pesticide, this is reduced when label directions, including use of PPE and REI restrictions, are followed. Due to the lack of toxicity, extensive history of exposure without harm, and limited exposure when label directions are followed, potassium silicate is not anticipated to result in unacceptable risk to cultivators when applied as a pesticide in cannabis cultivation.

Cultivators applying pesticides should always read and follow the label, SDS and relevant DPR documents including the DPR Pesticide Safety Information Series (PSIS) (DPR, 2015), DPR Compliance Assistant Booklet for Employers (DPR, 2010a) and the DPR Pesticide Use Compliance Guide for Employers and Businesses (DPR, 2010b).
Ecological Risk

Acute ecotoxicity endpoints can be categorized from practically nontoxic to very highly toxic (see Ecotoxicity Classification Table below). Throughout the discussion of ecotoxicity results, these toxicity classes will be used.

### Acute Ecotoxicity Categories for Terrestrial and Aquatic Organisms.

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Avian: Acute Oral LD₅₀ (mg/kg)</th>
<th>Aquatic Organisms: Acute LC₅₀ (ppm or mg/L)</th>
<th>Wild Mammals: Acute Oral LD₅₀ (mg/kg)</th>
<th>Non-Target Insects: Acute LD₅₀ (µg/bee)</th>
</tr>
</thead>
<tbody>
<tr>
<td>very highly toxic</td>
<td>&lt;10</td>
<td>&lt;0.1</td>
<td>&lt;10</td>
<td></td>
</tr>
<tr>
<td>highly toxic</td>
<td>10-50</td>
<td>0.1 - 1</td>
<td>10 - 50</td>
<td>&lt;2</td>
</tr>
<tr>
<td>moderately toxic</td>
<td>51-500</td>
<td>&gt;1 - 10</td>
<td>51 - 500</td>
<td>2 - 11</td>
</tr>
<tr>
<td>slightly toxic</td>
<td>501-2000</td>
<td>&gt;10 - 100</td>
<td>501 - 2000</td>
<td></td>
</tr>
<tr>
<td>practically nontoxic</td>
<td>&gt;2000</td>
<td>&gt;100</td>
<td>&gt;2000</td>
<td>&gt;11</td>
</tr>
</tbody>
</table>

Taken from USEPA, 2012

1. LD₅₀ is the median lethal dose at which 50% of the test animals die from the treatment
2. LC₅₀ is the median lethal concentration at which 50% of the test animals die from the treatment

**Birds**

No relevant toxicity data were available for potassium silicate for birds. However, silicon was evaluated as a dietary supplement for chickens at up to 250 mg/kg body weight. Addition of silicon in the diet did not cause any detrimental effects (Elliot and Edwards, 1991). A second study that fed sodium silicate to turkeys determined that feeding sodium silicate at 270 mg/kg for 4 weeks was not harmful, and was actually beneficial for growth (Kayonga-Male and Jia, 1999). USEPA (2007) accepted these supplemental studies to suggest potassium silicate will not be harmful to birds. These data are not sufficient to categorize potassium silicate toxicity, but supports that potassium is unlikely to be harmful when used as a pesticide in cannabis cultivation.

**Mammals (see Toxicity section under Human Risk for additional information)**

The acute oral LD₅₀ in rats is 2000 mg/kg body weight (USEPA, 2007), placing potassium silicate in the slightly toxic category.

**Reptiles**

No relevant toxicity data were available for potassium silicate for reptiles.

**Amphibians**

No relevant toxicity data were available for potassium silicate for amphibians.
Pollinators

Potassium silicate is practically nontoxic to honey bees (*Apis mellifera*) with a 48-hr contact LD$_{50}$ of greater than 25.6 µg/bee USEPA, 2007).

Soil-Dwelling Invertebrates

No relevant toxicity data were available for potassium silicate for earthworms or other soil-dwelling invertebrates.

Fish

Two studies for fish toxicity for potassium silicate are available (USEPA, 2007). The 48-hr LC$_{50}$ in golden orfe (*Leuciscus idus*) is reported both as greater than 146 mg/L and greater than 500 mg/L. These study results are sufficient to categorize potassium silicate as practically nontoxic to fish.

Aquatic Invertebrates

Two studies for toxicity to water flea (*Daphnia magna*) for potassium silicate are available (USEPA, 2007). The 24-hr EC$_{50}$ is reported as greater than 500 mg/L, and the 48-hr EC$_{50}$ is reported as greater than 146 mg/kg. These study results are sufficient to categorize potassium silicate as practically nontoxic to aquatic invertebrates.

Conclusions

The ecotoxicology data for many taxonomic groups for potassium silicate are limited or nonexistent. The complete lack of data for amphibians, reptiles, and soil-dwelling invertebrates precludes a conclusive determination of risk potential for these groups. However, the low potential for risk in other taxonomic groups suggests there is not likely a high potential for adverse effects in these three groups.

No relevant toxicity data were available for birds, but potassium silicate has been evaluated as a feed supplement for poultry with no apparent adverse effects. Therefore, there is sufficient evidence that use of potassium silicate as a pesticide on cannabis is unlikely to cause adverse effects in birds. Potassium silicate is categorized as practically nontoxic to mammals, pollinators, fish and aquatic invertebrates. Based on these results, potassium silicate used as a pesticide on cannabis is not likely to cause adverse effects.

References


Environmental Fate & Toxicology Summary
Potassium Sorbate
(CAS # 590-00-1)

Introduction

Potassium sorbate is a water-soluble salt used as a preservative in wines, cheeses, breads, and personal care products (USDA, 2002). Potassium sorbate is also an insecticide, fungicide, and miticide applied to both indoor and outdoor plants. Although the mechanism by which potassium sorbate acts as a pesticide is unclear, it kills and controls molds, yeasts, thrips, mites, and spider mites through direct contact application (Anonymous, 1988; USDA, 2002). As of 2016, three products were registered that list potassium sorbate as an active ingredient in California (DPR, 2016). However, potassium sorbate qualifies for exemption under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) section 25 (b) as a minimum risk pesticide and as a reduced-risk pesticide under 3 CCR 6147 (USEPA, 2015; 3 CCR 6147). Therefore, registration is not required. Potassium sorbate is also commonly listed in combination with other active ingredients or as an inert ingredient in pesticide products (USDA, 2002; CDA, 2017).

Example of Formulated Products*

Flying Skull Nuke ‘Em® Insecticide & Fungicide for All Plants Concentrate

*Reference to any specific product is for informational purposes only and does not constitute an endorsement or recommendation. Always read and follow label directions. If a label is unavailable, follow guidance in the product’s Safety Data Sheet (SDS) and/or in one or more of the following DPR documents: Pesticide Safety Information Series (PSIS); Compliance Assistance Booklets for Employers; and Pesticide Use Compliance Guide for Employers and Businesses.

Commonly Targeted Pest:

Spider mites, powdery mildew, aphids, thrips, whiteflies (Flying Skull Plant Products®, undated)

Environmental Fate

Its action as a pesticide is reported to be temporary, and it biodegrades rapidly. Potassium sorbate is not expected to bioaccumulate due to its low octanol/water partitioning coefficient (K_{ow}) (EU, 2011).

Human Risk

Toxicity

Acute toxicity endpoints can be categorized from lowest toxicity to highest toxicity as shown in the table below. Throughout the discussion of human toxicity, these classifications will be referenced.
Acute Toxicity Categories for Human

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Acute Oral LD$_{50}$</th>
<th>Acute Inhalation LC$_{50}$</th>
<th>Acute Dermal LD$_{50}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (highest toxicity)</td>
<td>≤ 50 mg/kg</td>
<td>≤ 0.2 mg/L</td>
<td>≤ 200 mg/kg</td>
</tr>
<tr>
<td>II (moderately toxic)</td>
<td>&gt;50 - 500 mg/kg</td>
<td>&gt;0.2 - 2 mg/L</td>
<td>&gt;200 - 2000 mg/kg</td>
</tr>
<tr>
<td>III (slightly toxic)</td>
<td>&gt;500 - 5,000 mg/kg</td>
<td>&gt;2 - 20 mg/L</td>
<td>&gt;2000 - 20,000 mg/kg</td>
</tr>
<tr>
<td>IV (lowest toxicity)</td>
<td>&gt;5000 mg/kg</td>
<td>&gt; 20 mg/L</td>
<td>&gt;20,000 mg/kg</td>
</tr>
</tbody>
</table>

Reference: 40 CFR 156.62
1. LD$_{50}$ is the median lethal dose at which 50% of the test animals die from the treatment
2. LC$_{50}$ is the median lethal concentration at which 50% of the test animals die from the treatment

Due to the safe history of use as a fungicide, in personal care products, and as a food preservative, potassium sorbate is exempt from registration through FIFRA Section 25(b) Minimum Risk Pesticide in the United States and a reduced-risk pesticide in California (USDA, 2002; USEPA, 2015; 3 CCR 6147). Potassium sorbate is designated as a reduced-risk pesticide in California and has no known adverse human health effects (DPR, 1999). The acute, oral LD$_{50}$ of potassium sorbate has been reported to be 3,800 mg/kg body weight in mice and 4,340 mg/kg body weight in rats, classifying it in Toxicity Category III (USDA, 2002). A dietary, life-time study in male and female rats reported testing 2,500 mg/kg-d without adverse effects (Anonymous, 1988). No inhalation or dermal LD$_{50}$ was available and no No Observed Adverse Effect Levels (NOAELs) were established for the pathways and durations considered. The United States Food and Drug Administration (FDA) recognizes potassium sorbate as ‘generally safe’ when used as a food additive (21 CFR 182.3640).

**Genotoxicity:** Studies investigating the genotoxicity potential of potassium sorbate in hamsters and Drosophila (fruit flies) have reported negative findings (USDA, 2002). No further information was available regarding the genotoxic potential of potassium sorbate.

**Mutagenicity:** Current scientific literature indicates that potassium sorbate does not have mutagenic properties based on in vitro Ames testing (USDA, 2002; EU, 2011). No further information was available regarding the mutagenic potential for potassium sorbate.

**Neurotoxicity:** No data were available implicating potassium sorbate as a neurotoxin (USDA, 2002). However, its mode of action as a pesticide has not been determined at this time.

**Reproductive/Developmental Toxicity:** Current scientific literature indicates that potassium sorbate is not a reproductive toxicant. Subchronic studies observed no reproductive effects in rats fed 10% sorbic acid in their diet for 120 days. One study found that chronic oral exposure to 5% dietary sorbic acid over 1,000 days did not result in reproductive effects (Anonymous, 1988).
Administration of 340 mg/kg body weight for 10 days of potassium sorbate did not result in any apparent offspring abnormalities nor affected fetal survival (FDRL, 1975). One study found that repeated doses of 1,000 mg/kg body weight per day of sorbic acid in pregnant rabbits through oral bolus ingestion resulted in growth abnormalities and decreased viability in embryos (Eu, 2011). However, repeated oral contact to high doses of sorbic acid is not anticipated in occupational settings. Based on these findings, no adverse reproductive or developmental effects are anticipated when potassium sorbate is applied as a pesticide. Potassium sorbate is not listed as a developmental toxicant on the Proposition 65 list (OEHHA, 2016).

**Dermal Absorption Factor (DAF):** Although studies investigating dermal absorption rates of potassium sorbate are not available, a structurally and metabolically similar chemical analog, acrylic acid, is reported to have an estimated DAF of 0.25 (EU, 2011). This would indicate low-to-moderate potential for dermal absorption of potassium sorbate should contact occur.

**Carcinogenicity:** Potassium sorbate has not been found to result in adverse carcinogenic effects in rats or mice nor is reported as a human carcinogen in the available scientific literature despite decades of human use (EU, 2011; Anonymous, 1988). There is no indication that potassium sorbate or its breakdown products are carcinogenic (USDA, 2002). Potassium sorbate is not listed as a suspected carcinogen by the World Health Organization nor is listed as a carcinogen on Proposition 65 (OEHHA, 2016; WHO, 2016).

**Skin, Eye, or Lung Irritation:** Potassium sorbate has the potential to cause human eye and skin irritation (Anonymous, 1988; DPR, 1999; EU, 2011). Therefore, products that contain more than 8.5 percent potassium sorbate must have label language requiring use of eyewear and gloves (DPR, 1999). Respiratory tract irritation to potassium sorbate has not been reported in humans (EU, 2011).

**Exposure**

Contact with pesticide residues may occur during pesticide mixing, loading or application or when handling treated cannabis crop. Although cultivators are not anticipated to intentionally ingest pesticide residues, incidental hand-to-mouth ingestion of pesticide residues may occur if hands are not properly washed and proper care is not taken to avoid unintentional transfer of pesticide residues on hands to mouth. Aerosolized pesticide from the use of application equipment, such as backpack sprayers, may be present and as a result, there is a potential for inhalation exposure during application. Respirators are not always required for products containing potassium sorbate as the active ingredient (Flying Skull Plant Products®, undated). Because of the low vapor pressure of potassium sorbate (7.50^-8 mm Hg @ 25°C), it is not expected to volatilize from plants or soil to a significant degree (EU, 2011). Although there is the potential for dermal and eye exposure, label instructions require applicators to wear long-sleeve clothing, pesticide-resistant gloves, close-toed shoes with socks, and eye protection when the active ingredient is greater than 8.5 percent (DPR, 1999). Potassium sorbate degrades quickly in the environment and is not expected to persist (EU, 2011) such that long-term exposure is anticipated.
Conclusion

Based on available toxicity data, its history of safe use in food, wine, and personal care products, potassium sorbate is not anticipated to have adverse effects on human health for any exposure pathway when used as a pesticide. No acute, subchronic, or chronic NOAELs have been established for the pathways considered. Based on the low mammalian toxicity and safe history of use as a pesticide and as a food ingredient, potassium sorbate is not anticipated to result in unacceptable risk to cultivators when applied as a pesticide in cannabis cultivation.

Cultivators applying pesticides should always read and follow the label, SDS and relevant DPR documents including the DPR Pesticide Safety Information Series (PSIS) (DPR, 2015), DPR Compliance Assistant Booklet for Employers (DPR, 2010a) and the DPR Pesticide Use Compliance Guide for Employers and Businesses (DPR, 2010b).

Ecological Risk

Acute ecotoxicity endpoints can be categorized from practically nontoxic to very highly toxic (see Ecotoxicity Classification Table below). Throughout the discussion of ecotoxicity results, these toxicity classes will be used.

Acute Ecotoxicity Categories for Terrestrial and Aquatic Organisms.

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Avian: Acute Oral LD₅₀ (mg/kg)</th>
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</tr>
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<tbody>
<tr>
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<td>&lt;0.1</td>
<td>&lt;10</td>
<td>&lt;2</td>
</tr>
<tr>
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<td>10-50</td>
<td>0.1 - 1</td>
<td>10 - 50</td>
<td>&lt;2</td>
</tr>
<tr>
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<td>51-500</td>
<td>&gt;1 - 10</td>
<td>51 - 500</td>
<td>2 - 11</td>
</tr>
<tr>
<td>slightly toxic</td>
<td>501-2000</td>
<td>&gt;10 - 100</td>
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</tr>
<tr>
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<td>&gt;11</td>
</tr>
</tbody>
</table>

Taken from USEPA, 2012

1 LD₅₀ is the median lethal dose at which 50% of the test animals die from the treatment
2 LC₅₀ is the median lethal concentration at which 50% of the test animals die from the treatment

Birds

No relevant toxicity data were available for potassium sorbate for birds.

Mammals (see Toxicity section under Human Risk for additional information)

Potassium sorbate ("solid or mixed isomers") was fed to groups of 10 rats (5 male and 5 female). Increased kidney weights were seen in rats consuming 2,500 mg/kg-d. The LD₅₀s were 4,900 mg/kg body weight and 6,200 mg/kg body weight for solid and mixed isomers, respectively (LSRO, 1975). Additional acute toxicity studies were available for sorbic acid. In the mouse, the LD₅₀ of sorbic acid was greater than 10,000 mg/kg body weight (Uchida, 1985 in EU, 2011). Estimated LD₅₀s for sorbic acid for rats were 7,360 mg/kg body weight (Smyth and Carpenter, 1948 in EU, 2011) and 10,500 mg/kg body weight (Deuel et al., 1954). These studies indicate
potassium sorbate and sorbic acid are practically nontoxic to mammals (see Ecotoxicity Classification Table above).

Additional mammalian toxicity studies indicate dietary sorbic acid had a NOAEL in rats fed for 28 days of 9,200 mg/kg-d for males and 8,600 mg/kg-d for females (Ehling 2003 in EU 2011). When fed for 90 days, rats had a NOAEL of 6,800 mg/kg-d in males and 7,200 mg/kg-d in females (Ehling, 2003 in EU, 2011). Mice fed sorbic acid 18 months in diet had a NOAEL of 1,400 mg/kg-d based on slight enlargement of the kidney and reduced weight gain (Hendy et al., 1976). In rats, the NOAEL after being fed sorbic acid for 2 years was 750 mg/kg-d based on minor changes in livers and kidneys (Gaunt et al., 1975).

In a developmental toxicity study in which mice received oral dosing up to 460 mg/kg-d from Day 6 through Day 15 of gestation had no clearly discernible effect on implantation rate or on maternal or fetal survival. The number of abnormalities seen in either soft or skeletal tissues of the test groups did not differ from the number occurring spontaneously in the sham-treated controls (FDRL, 1975). Similar results were observed in rats fed up to 340 mg/kg-d from Day 6 through day 15 of gestation (FDRL, 1975).

Reptiles

No relevant toxicity data were available for potassium sorbate for reptiles.

Amphibians

No relevant toxicity data were available for potassium sorbate for amphibians.

Pollinators

No relevant toxicity data were available for potassium sorbate for pollinators.

Soil-Dwelling Invertebrates

No relevant toxicity data were available for potassium sorbate for earthworms or other soil-dwelling invertebrates.

Fish

The acute LC$_{50}$ for rainbow trout (Oncorhynchus mykiss) for potassium sorbate was greater than 1,000 ppm (Staebler, 2004a in EU, 2011) making potassium sorbate practically nontoxic to fish.

Aquatic Invertebrates

The EC$_{50}^*$ for potassium sorbate in Daphnia sp. was 982 mg/L (Staebler, 2004b in EU, 2011).

* EC$_{50}$ is the effective concentration at which an adverse effect is noted in 50% of the test organisms. For aquatic invertebrates it can be difficult to determine mortality, so an EC$_{50}$ based on immobility is often reported.
In a study with a nonstandard test species, the EC_{50} for the protozoan *Euglena gracilis* was 2,256 ppm (Engel et al., 2015). These results indicate potassium sorbate is practically nontoxic to aquatic invertebrates.

**Conclusions**

The ecotoxicology data for all taxonomic groups for potassium sorbate, except for mammals, are limited or nonexistent. The complete lack of data for birds, amphibians, reptiles, pollinators, and soil-dwelling invertebrates precludes a conclusive determination of risk potential for these groups.

The toxicity data for mammals were sufficient to conclude that potassium sorbate is practically nontoxic to mammals. The very high acute LD_{50} values and high NOAELs for longer-term studies suggests that other terrestrial vertebrates also will have a low potential for adverse effects from potassium sorbate applied as a pesticide in cannabis cultivation.

Since no toxicity data were available for pollinator and lack of adverse effects cannot be assured, potassium sorbate should not be applied when pollinators are present or allowed to drift to flowers attractive to pollinators following applications of potassium sorbate as a pesticide in cannabis cultivation.

Potassium sorbate is practically nontoxic to aquatic species. Therefore, the potential for adverse effects to aquatic species following applications of potassium sorbate as a pesticide in cannabis cultivation is low.

**References**


Environmental Fate & Toxicology Summary
Predatory Nematodes
(CAS # NA)

Introduction

Predatory nematodes, otherwise known as beneficial nematodes, are microscopic organisms that are ubiquitous in soil and water worldwide (Grant, 1998). Over 25,000 individual nematode species have been identified with a subset being used as biological control for pest insects. These entomopathogenic nematodes primarily belong to the genera *Steinernema* and *Heterorhabditis* (Smart, 1995; Poinar, 2003). They are parasitic to larvae and adult insects, such as fungus gnats, thrips, and leaf miners, by entering the host through body openings and producing a bacterial toxin that is lethal to the insect host (Smart, 1995; Shapiro-Ilan et al., 2005; Tofangsazi et al., 2015). Predatory nematodes have been applied to soil as a means of preventing target pests from destroying plant roots for decades (Smart, 1995; DPR, 2017).

Example of Formulated Products*

NemAttack®, NemaSeek®, Nemashield® HB

*Reference to any specific product is for informational purposes only and does not constitute an endorsement or recommendation. Always read and follow label directions. If a label is unavailable, follow guidance in the product’s Safety Data Sheet (SDS) and/or in one or more of the following DPR documents: Pesticide Safety Information Series (PSIS); Compliance Assistance Booklets for Employers; and Pesticide Use Compliance Guide for Employers and Businesses.

Commonly Targeted Pest:

Fungus gnats, scarab grubs, thrips, ants, and leaf miners (DPR, 2017; Tofangsazi et al., 2015)

Environmental Fate

Nematodes exist naturally in soil and water where they feed on bacteria, fungi, and other nematodes. Nematodes play a major role in decomposing organic matter and nutrient cycling (Grant, 1998). The presence of nematodes are indicators of soil health due to their ubiquity in most soils and their rapid response to negative environmental alterations (Hodson and Lewis, 2014).

Human Risk

Toxicity

No specific toxicity data was located for the acute, subchronic, or chronic oral, inhalation, or dermal pathways. No toxicological endpoints were available for any exposure route or duration. No incident reports are available for predatory nematodes through the California Pesticide Illness Query System (CalPIQ). Because entomopathogenic/predatory nematodes are specific to non-
mammalian species and have a safe history of use in biological control of insects, no adverse human health effects are anticipated (Grubinger, 2005; Shapiro-Ilan et al., 2006).

Genotoxicity: No information was available regarding the genotoxic potential of predatory nematodes.

Mutagenicity: No information was available regarding the mutagenic potential of predatory nematodes.

Neurotoxicity: No evidence was located suggesting that predatory nematodes used as pesticides have a neurotoxic mode of action or neurotoxic potential in mammals.

Reproductive/Developmental Toxicity: Predatory nematodes are not listed as a developmental toxicant on the Proposition 65 list (OEHHA, 2016). No further information was available regarding the reproductive or developmental toxicity of predatory nematodes.

Dermal Absorption Factor (DAF): No DAF was available for predatory nematodes.

Carcinogenicity: Predatory nematodes are not listed as a suspected carcinogen by the World Health Organization nor are listed as a carcinogen on Proposition 65 (OEHHA, 2016; WHO, 2016). No further information was available regarding the carcinogenic potential of predatory nematodes.

Skin, Eye, or Lung Irritation: Exposure to predatory nematodes is not reported to cause irritation to the skin, eyes, or lungs.

Exposure

Exposure pathways considered were ingestion, inhalation, and dermal absorption. Contact with predatory nematodes may occur during pesticide mixing, loading or application or when handling treated cannabis crop. Although cultivators are not anticipated to intentionally ingest nematodes, incidental hand-to-mouth ingestion may occur if hands are not properly washed and proper care is not taken to avoid unintentional transfer of nematodes on hands to mouth. Predatory nematodes may be mixed directly into soil or mixed with water and sprayed onto foliage and soil (Orcon® Organics Controls, Inc., undated). Aerosolized pesticide from the use of application equipment, such as backpack sprayers, may be present and as a result, there is a potential for inhalation exposure during application. Because nematodes may also be directly mixed with soil and mulch, it is possible to come into contact with predatory nematodes through the dermal route if gloves and long-sleeves are not equipped.

Conclusion

Predatory nematodes have a safe history of use that extends for decades. No toxic endpoints nor general toxicity data have been reported for exposure to predatory nematodes. Although some nematodes can cause deleterious effects to human health, the species utilized as a pesticide are entomopathogenic and not likely to affect humans. There is the potential for exposure to
predatory nematodes when used as a pesticide. However, based on the low mammalian toxicity, natural presence in the environment, safe history of use, and specific to insect hosts, predatory nematodes are not anticipated to result in unacceptable risk to cultivators when applied as a pesticide in cannabis cultivation.

Cultivators applying pesticides should always read and follow the label, SDS and relevant DPR documents including the DPR Pesticide Safety Information Series (PSIS) (DPR, 2015), DPR Compliance Assistant Booklet for Employers (DPR, 2010a) and the DPR Pesticide Use Compliance Guide for Employers and Businesses (DPR, 2010b).

**Ecological Risk**

No literature was identified that evaluated the potential adverse effects of entomopathogenic/predatory nematodes on any terrestrial or aquatic vertebrate species. No studies were identified that evaluated the toxicity or adverse effects of entomopathogenic/predatory nematodes to any of the standard ecotoxicity test species. Only insects or other invertebrate species were evaluated. In field tests, entomopathogenic/predatory nematodes that had significantly suppressed pest populations of Japanese beetles (*Popillia japonica*), tawny mole cricket, (*Scapteriscus vicinus*) black vine weevil (*Otiorhynchus sulcatus*), cabbage maggot (*Delia radicum*), and western corn rootworm (*Diabrotica virgifera virgifera*) did not adversely affect the numbers of nontarget soil arthropods in comparison with the untreated control (Georgis et al. 1991). In a stream trial, entomopathogenic/predatory nematodes significantly reduced black fly larval populations, but the nontarget insects often increased at the treatment sites (Georgis et al. 1991).

The potential for exposure of nontarget species is limited since entomopathogenic/predatory nematodes are sensitive to desiccation and exposure to ultra-violet light which greatly limit their survival of outside of the soil (Shapiro-Ilan et al., 2006). Rather than being evaluated for detrimental impacts resulting from entomopathogenic/predatory nematodes used in biocontrol, the primary focus of ecotoxicology studies with nematodes has been to evaluate them as indicator species for ecological impacts from contaminants (Sochová et al, 2006; Hägerbäumer et al., 2015).

Additional evidence that entomopathogenic/predatory nematodes are unlikely to adversely affect nontarget species derives from their host specificity. Individual entomopathogenic/predatory nematode species can have a restricted range of hosts which they can infect and kill, which reduces the potential for adverse effects on nontarget species (Simões and Rosa, 1996).

Without a prey base to sustain entomopathogenic/predatory nematodes, they are unlikely to persist. Kostenko et al. (2015) evaluated the relationship between plant communities and entomopathogenic/predatory nematodes. Prey abundance was a primary determinant in the presence and abundance of entomopathogenic nematodes with certain plant communities providing prey bases that differentially benefited species of entomopathogenic/predatory nematodes.
Conclusion

Lack of information regarding adverse effects to species that are not prey is not definitive evidence no adverse effects will occur from the use of entomopathogenic/predatory nematodes for control of pests in cannabis cultivation. However, a large amount of published literature exists on their use in pest control, and no harmful effects have been noted. Therefore, it is reasonable to conclude that the potential for adverse effects is low from the use of entomopathogenic/predatory nematodes to control pests in cannabis cultivation.

References


Environmental Fate & Toxicology Summary
Putrescent Whole Egg Solids
(CAS # 51609-52-0)

Introduction

Putrescent whole egg solids (herein referred to as “egg solids”) are an active ingredient used in pesticide products registered for use as animal repellents. They are produced from eggs that the United States Department of Agriculture (USDA) has declared as unsuitable for human consumption due to imperfections such as cracked shells, excessive blood spots, or other features that do not meet food use standards. Egg solids are applied as a pesticide as a dust, ready-to-use liquid, or emulsifiable concentration on nursery or greenhouse shrubs, ornamental plants, and food crops (USEPA, 1992). Egg solids are exempt from tolerance requirements under 40 CFR 180.1071 (2005) and are considered a minimum risk pesticide by the United States Environmental Protection Agency (USEPA) under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) section 25(b) and a reduced-risk pesticide in California under 3 CCR 6147, exempting products containing putrescent whole egg solids from registration (USEPA, 2015; 3 CCR 6147). As of 2016, there were 17 products registered in California that contain putrescent whole egg solids as an active ingredient (DPR, 2017a).

Example of Formulated Products*

Havahart® Deer and Rabbit Repellent, Deer-Off® Concentrate II

*Reference to any specific product is for informational purposes only and does not constitute an endorsement or recommendation. Always read and follow label directions. If a label is unavailable, follow guidance in the product’s Safety Data Sheet (SDS) and/or in one or more of the following DPR documents: Pesticide Safety Information Series (PSIS); Compliance Assistance Booklets for Employers; and Pesticide Use Compliance Guide for Employers and Businesses.

Commonly Targeted Pest:

Deer, rabbits, squirrels (USEPA, 1992; Woodstream Corporation, undated)

Environmental Fate

Eggs and egg products have a long history of safe use as food products (USEPA, 1992). Putrescent whole egg solids are non-persistent in the environment and rapidly degrade through biological, physical, and chemical processes (USEPA, 2011a). They are practically insoluble in water (USEPA, 2010). Registration of putrescent whole egg solids did not require submission of environmental fate data due to the low toxicity and safe history of use (USEPA, 1992).
Human Risk

Toxicity

Acute toxicity endpoints can be categorized from lowest toxicity to highest toxicity as shown in the table below. Throughout the discussion of human toxicity, these classifications will be referenced.

### Acute Toxicity Categories for Human

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Acute Oral $LD_{50}$</th>
<th>Acute Inhalation $LC_{50}$</th>
<th>Acute Dermal $LD_{50}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (highest toxicity)</td>
<td>$\leq 50$ mg/kg</td>
<td>$\leq 0.2$ mg/L</td>
<td>$\leq 200$ mg/kg</td>
</tr>
<tr>
<td>II (moderately toxic)</td>
<td>$&gt;50 - 500$ mg/kg</td>
<td>$&gt;0.2 - 2$ mg/L</td>
<td>$&gt;200 - 2000$ mg/kg</td>
</tr>
<tr>
<td>III (slightly toxic)</td>
<td>$&gt;500 - 5000$ mg/kg</td>
<td>$&gt;2 - 20$ mg/L</td>
<td>$&gt;2000 - 20000$ mg/kg</td>
</tr>
<tr>
<td>IV (lowest toxicity)</td>
<td>$&gt;5000$ mg/kg</td>
<td>$&gt;20$ mg/L</td>
<td>$&gt;20000$ mg/kg</td>
</tr>
</tbody>
</table>

Reference: 40 CFR 156.62
1. $LD_{50}$ is the median lethal dose at which 50% of the test animals die from the treatment
2. $LC_{50}$ is the median lethal concentration at which 50% of the test animals die from the treatment

Egg solids are a common food component and there is an extensive history of human exposure. When used as a pesticide, egg solids have a non-toxic mode of action for repelling animals (USEPA, 1992). The $LD_{50}$ through the acute oral and dermal routes of exposure are estimated to be greater than 5,000 mg/kg body weight, classifying them in Toxicity Category IV (least toxic) for these pathways. The $LC_{50}$ of whole egg solids through the acute, inhalation pathway is estimated to be greater than 2.1 mg/L, classifying them as a Toxicity Category IV (lowest toxicity) ingredient through this route (USEPA, 2011a). Skin and eye irritation may occur for acute dermal and eye exposure to egg solids. End products containing putrescence whole egg solids as the only active ingredient did not produce skin sensitization (USEPA, 2011a). No No Observed Adverse Effect Levels (NOAELs) were available for any exposure pathway or duration. Egg products, such as putrescent whole egg solids, are Generally Recognized as Safe (GRAS) by the Food and Drug Administration (FDA) (21 CFR 170.3; USEPA, 1992). No incidents involving human health were reported between 1992 and 2014 involving egg solids as the only implicated active ingredient in an agricultural setting (DPR, 2017b). The processing of putrescent whole egg solids includes a quality control measure for Salmonella, yeast, and mold, such that the presence of these contaminants is not of concern (USEPA, 1992). Due to the safe history of use, low toxicity, and extensive processing, no adverse effects to human health are anticipated when egg solids are applied as a pesticide in compliance with label language.

Genotoxicity: No information was available regarding the genotoxic potential of egg solids.
Mutagenicity: No information was available regarding the mutagenic potential of egg solids.

Neurotoxicity: Current scientific literature indicates that egg solids have a non-toxic mode of action and are not known to be neurotoxic (USEPA, 1992; 2011a). Therefore, no adverse neurotoxic effects are anticipated when egg solids are used as a pesticide.

Reproductive/Developmental Toxicity: Putrescent whole egg solids are not listed as a developmental toxicant on the Proposition 65 list (OEHHA, 2016). No further information was available regarding the reproductive or developmental toxicity potential of egg solids.

Dermal Absorption Factor (DAF): No DAF was available for egg solids.

Carcinogenicity: Current scientific literature indicates that egg solids have a safe history of use and no significant toxicity (USEPA, 1992; 2011a). Putrescent whole egg solids are not listed as a suspected carcinogen by the World Health Organization nor listed as a carcinogen on Proposition 65 (OEHHA, 2016; WHO, 2016). No further information was available regarding the carcinogenic potential of egg solids.

Skin, Eye, or Lung Irritation: Excessive exposure to putrescent whole egg solids may cause local temporary skin, eye, or lung irritation that clears within 2-7 days (USEPA, 2011a).

Exposure

Exposure pathways considered were ingestion, inhalation, and dermal absorption. Contact with pesticide residues may occur during pesticide mixing, loading or application or when handling treated cannabis crop. Although cultivators are not anticipated to intentionally ingest pesticide residues, incidental hand-to-mouth ingestion of pesticide residues may occur if hands are not properly washed and proper care is not taken to avoid unintentional transfer of pesticide residues on hands to mouth. Aerosolized pesticide from the use of application equipment, such as backpack sprayers, may be present and as a result, there is a potential for inhalation exposure during application. Because egg solids can cause local irritation to the lungs, it is recommended it is applied in a well-ventilated area or with the use of protective respiratory equipment. Inhalation exposure post-application due to volatilization of pesticide from foliage is unlikely because egg solids physically exist as a solid once dry (USEPA, 2011a). Dermal and ocular exposure to egg solids is minimized when long-sleeved clothing, gloves, and safety glasses are used. However, not all product formulations require applicators to wear dermal or eye personal protection equipment when egg solids are the only active ingredient (Woodstream Corporation, undated). Due to the low toxicity and safe history of use, personal protection equipment for application of whole egg solids is minimal. Therefore, acute human contact may occur when egg solids are used as a repellant. Because egg solids readily degrade in the environment (USEPA, 2011a), long-term exposure to cultivators is not anticipated.

Conclusion

Based on the available toxicity data, use of egg solids as a pesticide is not anticipated to have adverse effects on human health for any exposure pathway. No NOAELs were reported for putrescent whole egg solids through any the pathways and durations considered. Based on the
low mammalian toxicity, safe history of use as a pesticide and as a food ingredient, the
expectation of low exposure, and rapid environmental degradation, putrescent whole egg solids
are not anticipated to result in unacceptable risk to cultivators when applied as a pesticide in
cannabis cultivation.

Cultivators applying pesticides should always read and follow the label, SDS and relevant DPR
documents including the DPR Pesticide Safety Information Series (PSIS) (DPR, 2015), DPR
Compliance Assistant Booklet for Employers (DPR, 2010a) and the DPR Pesticide Use
Compliance Guide for Employers and Businesses (DPR, 2010b).

Ecological Risk

Acute ecotoxicity endpoints can be categorized from practically nontoxic to very highly toxic
(see Ecotoxicity Classification Table below). Throughout the discussion of ecotoxicity results,
these toxicity classes will be used.

### Acute Ecotoxicity Categories for Terrestrial and Aquatic Organisms.

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Avian: Acute Oral LD50(^{1}) (mg/kg)</th>
<th>Aquatic Organisms: Acute LC50(^{2}) (ppm or mg/L)</th>
<th>Wild Mammals: Acute Oral LD50 (mg/kg)</th>
<th>Non-Target Insects: Acute LD50 (µg/bee)</th>
</tr>
</thead>
<tbody>
<tr>
<td>very highly toxic</td>
<td>&lt;10</td>
<td>&lt;0.1</td>
<td>&lt;10</td>
<td></td>
</tr>
<tr>
<td>highly toxic</td>
<td>10 - 50</td>
<td>0.1 - 1</td>
<td>10 - 50</td>
<td>&lt;2</td>
</tr>
<tr>
<td>moderately toxic</td>
<td>51 - 500</td>
<td>&gt;1 - 10</td>
<td>51 - 500</td>
<td>2 - 11</td>
</tr>
<tr>
<td>slightly toxic</td>
<td>501 - 2000</td>
<td>&gt;10 - 100</td>
<td>501 - 2000</td>
<td></td>
</tr>
<tr>
<td>practically nontoxic</td>
<td>&gt;2000</td>
<td>&gt;100</td>
<td>&gt;2000</td>
<td>&gt;11</td>
</tr>
</tbody>
</table>

Taken from USEPA, 2012

1 LD50 is the median lethal dose at which 50% of the test animals die from the treatment
2 LC50 is the median lethal concentration at which 50% of the test animals die from the treatment

Birds

Repellency was evaluated for a product containing 38% putrescent whole egg solids with
European starlings (*Sturnus vulgaris*). Starlings readily used nest boxes with putrescent whole
egg solids. No apparent detrimental effects on egg-laying or hatching (White and Blackwell,
2003). No adverse effects were reported, but it not clear how rigorously or even if adverse effects
were evaluated.

Mammals (see Toxicity section under Human Risk for additional information)

Rat acute oral LD50 was estimated to be greater than 5,000 mg/kg (USEPA 2011a). This
estimated value for oral toxicity classifies putrescent whole egg solids as practically nontoxic to
mammals (see Ecotoxicity Classification Table above).

A wildlife repellent containing 38% putrescent whole egg solids was evaluated for repellency
with white-tailed deer (Byers et al., 1990). No adverse effects were reported, but it not clear how
rigorously or even if adverse effects were evaluated.
Reptiles

No relevant toxicity data were available for putrescent whole egg solids for reptiles.

Amphibians

No relevant toxicity data were available for putrescent whole egg solids for amphibians.

Pollinators

No relevant toxicity data were available for putrescent whole egg solids for reptiles.

Soil-Dwelling Invertebrates

No relevant toxicity data were available for putrescent whole egg solids for earthworms or other soil-dwelling invertebrates.

Fish

No relevant toxicity data were available for putrescent whole egg solids for fish.

Aquatic Invertebrates

No relevant toxicity data were available for putrescent whole egg solids for aquatic invertebrates.

Conclusions

No long-term oral toxicity studies were identified for any group. A single oral toxicity estimate was available for mammals, and repellency data were available for birds and mammals. The lack of toxicity data for birds, amphibians, reptiles, soil-dwelling invertebrates, pollinators, and aquatic species precludes a conclusive determination of risk potential for these groups. However, the low potential for risk in mammals and the rapid deterioration in the environment (USEPA, 2011b) suggests there is not likely a high potential for adverse effects in any groups.

References


Environmental Fate & Toxicology Summary
Extract of *Reynoutria sachalinensis*  
(CAS # N/A)

**Introduction**

*Reynoutria sachalinensis*, also known as *R. sachalinensis* or the Giant Knotweed, is a member of the buckwheat family that has a long history of human use as an ornamental plant, food, livestock fodder, and for the treatment of dermatitis and athlete’s foot (USEPA, 2000a; USEPA, 2005; Health Canada, 2015). Its ethanol extract acts as a fungicide and bactericide targeted at protecting food and non-food plants from powdery mildew, gray mold, and a variety of other fungal diseases (USEPA, 2000a; USEPA, 2005; MBI, 2016). It acts through a non-toxic mode of action by boosting the systemic resistance of treated plants, suppressing the development of plant pathogens (MBI, 2016; Health Canada, 2015). The extract is derived from the dissolution of dried, ground *R. sachalinensis* plant and applied as a liquid to targeted plants through foliar spray, soil drench, or drip irrigation (USEPA, 2005; MBI, 2016). As of 2017, there were four registered formulated products in California that contain extract of *R. sachalinensis* as the active ingredient (DPR, 2017a).

**Example of Formulated Products***

Regalia® RX Biofungicide (MBI, 2016)

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**Commonly Targeted Pest:**

Powdery Mildew, Gray Mold (DPR, 2017b; USEPA, 2000 Fact Sheet)

**Environmental Fate**

Extract of *R. sachalinensis* is a natural component of the plant *R. sachalinensis* and is not expected to persist in the environment (Health Canada, 2015).

**Human Risk**

**Toxicity**

Acute toxicity endpoints can be categorized from lowest toxicity to highest toxicity as shown in the table below. Throughout the discussion of human toxicity, these classifications will be referenced.
Acute Toxicity Categories for Human

<table>
<thead>
<tr>
<th>Acute Oral LD₅₀</th>
<th>Acute Inhalation LC₅₀</th>
<th>Acute Dermal LD₅₀</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity Category I (highest toxicity)</td>
<td>≤ 50 mg/kg</td>
<td>≤ 0.2 mg/L</td>
</tr>
<tr>
<td>Toxicity Category II (moderately toxic)</td>
<td>&gt;50 - 500 mg/kg</td>
<td>&gt;0.2 - 2 mg/L</td>
</tr>
<tr>
<td>Toxicity Category III (slightly toxic)</td>
<td>&gt;500 - 5,000 mg/kg</td>
<td>&gt;2 - 20 mg/L</td>
</tr>
<tr>
<td>Toxicity Category IV (lowest toxicity)</td>
<td>&gt;5000 mg/kg</td>
<td>&gt; 20 mg/L</td>
</tr>
</tbody>
</table>

Reference: 40 CFR 156.62
1. LD₅₀ is the median lethal dose at which 50% of the test animals die from the treatment
2. LC₅₀ is the median lethal concentration at which 50% of the test animals die from the treatment

*Reynoutria sachalinensis* has a safe history of use as a food, medicine, and ornamental plant without any adverse effects reported (Health Canada, 2015; USEPA, 2005). *R. sachalinensis* extract acts through a non-toxic mode of action, inducing the systemic resistance of plants by strengthening cell walls and increasing antioxidants in treated plants (MBI, 2016). Extract of *R. sachalinensis* is categorized in Toxicity Category IV (lowest toxicity) for the acute oral pathway based on studies in rats that reported the LD₅₀ greater than 5,000 mg/kg (USEPA, 2000b). No adverse effects were observed (USEPA, 2000). *R. sachalinensis* extract is categorized as Toxicity Category IV (lowest toxicity) for the acute inhalation pathway. The LC₅₀ was greater than 2.6 mg/L for the end-product assessed with no adverse effects reported (USEPA, 2005). *R. sachalinensis* extract is categorized in Toxicity Category III or IV (slightly to lowest toxicity) for the acute dermal pathway, based on studies that report the LD₅₀ to be greater than 2,000 mg/kg in rats (USEPA, 2000b). No adverse effects or No Observed Adverse Effect Levels (NOAELs) were observed for any exposure pathway or duration considered.

Between 1992 and 2014, there have been no agricultural incidents reported in California implicating *Reynoutria sachalinensis* as the only active ingredient (DPR, 2017c).

**Genotoxicity:** Information regarding the genotoxic potential of the extract of *R. sachalinensis* is limited. While some studies report ambiguous or positive findings for genotoxic effects in vitro, these effects are either equivocal or negative in in vivo studies (EFSA, 2015; Health Canada, 2011). Additionally, some literature reports that extract of *R. sachalinensis* has antigenotoxic properties (USEPA, 2005). No additional information was available regarding the genotoxicity of *R. sachalinensis* extract.

**Mutagenicity:** Information regarding the mutagenic potential of the extract of *R. sachalinensis* is limited. Although some publications report either inconclusive or positive results in in vitro assays, in vivo assays such as the Comet Assay or Micronucleus Assay are either negative or
equivocal (EFSA, 2015; Health Canada, 2011). R. sachalinensis does not belong to a class of chemicals nor is structurally related to any known mutagens (USEPA, 2000b). No additional information was available regarding the mutagenicity of R. sachalinensis extract.

**Neurotoxicity:** No evidence was located suggesting that R. sachalinensis extract used as pesticides has a neurotoxic mode of action or neurotoxic potential in mammals (Health Canada, 2011).

**Reproductive/Developmental Toxicity:** The 1996 Food Quality Protection Act (FQPA) requires the EPA screen pesticide chemicals for their potential to cause endocrine disruption. The USEPA, as advised by the Endocrine Disruptor Screening and Testing Advisory Committee (EDSTAC), determined based on the weight-of-evidence that R. sachalinensis extract is not likely to have an endocrine system-related effect on humans or wildlife (USEPA, 2000b). R. sachalinensis extract is not related to any class of chemicals known to cause endocrine disruption effects (USEPA, 2005). R. sachalinensis is not listed as a suspected developmental toxicant on Proposition 65 (OEHHA, 2017). No additional information was available regarding the reproductive or developmental toxicity of R. sachalinensis extract.

**Dermal Absorption Factor (DAF):** No DAF was available for R. sachalinensis extract.

**Carcinogenicity:** R. sachalinensis extract is not listed as a suspected carcinogen by the World Health Organization nor is listed as a carcinogen on Proposition 65 (OEHHA, 2017; WHO, 2017). No additional information was available regarding the carcinogenic potential of R. sachalinensis (EFSA, 2015; Health Canada, 2015).

**Skin, Eye, or Lung Irritation:** Extract of R. sachalinensis was reported to cause no primary dermal irritation up to 72 hours following dosing (USEPA, 2005). Technical grade R. sachalinensis only elicited slight irritation to the eyes (USEPA, 2005). Although specific information regarding the relationship of technical grade R. sachalinensis and lung irritation was not available, an end product (Milsana®) containing 5% R. sachalinensis was reported to cause minimal inhalation irritation (USEPA, 2000b). It is not reported to be a skin sensitizer (Health Canada, 2015).

**Exposure**

Exposure pathways considered were ingestion, inhalation, and dermal absorption. Contact with pesticide residues may occur during pesticide mixing, loading or application or when handling treated cannabis crop. Although cultivators are not anticipated to intentionally ingest pesticide residues, incidental hand-to-mouth ingestion of pesticide residues may occur if hands are not properly washed and proper care is not taken to avoid unintentional transfer of pesticide residues on hands to mouth. Aerosolized pesticide from the use of application equipment, such as backpack sprayers, may be present and as a result, there is a potential for inhalation exposure during application. There is potential for dermal and ocular contact to R. sachalinensis extract in occupational settings. Dermal and eye exposure is reduced when long-sleeved clothing, shoes with socks, safety glasses, and gloves are worn in compliance with the label (USEPA, 2000a, b; MBI, 2016). A Restricted-entry Interval (REI) of 4 hours is required for all products currently
registered in California as a pesticide containing \textit{R. sachalinensis} extract as the active ingredient when applied to agricultural crops (DPR, 2017a; MBI, 2016).

\textbf{Conclusion}

Based on available toxicity data and limited occupational exposure, extract of \textit{R. sachalinensis} is not anticipated to result in adverse effects to human health for any exposure pathway. No NO(A)ELs or adverse effects were observed for any exposure pathway or duration considered. There is potential for human contact with \textit{R. sachalinensis} extract when applied as a pesticide; however, this exposure is significantly reduced when personal protective equipment is used in accordance with the label. Due to the low mammalian toxicity, history of safe use, natural presence in the environment, and limited exposure, \textit{R. sachalinensis} extract is not anticipated to result in unacceptable risk to cultivators when applied as a pesticide in cannabis cultivation.

Cultivators applying pesticides should always read and follow the label, SDS and relevant DPR documents including the DPR Pesticide Safety Information Series (PSIS) (DPR, 2015), DPR Compliance Assistant Booklet for Employers (DPR, 2010a) and the DPR Pesticide Use Compliance Guide for Employers and Businesses (DPR, 2010b).

\textbf{Ecological Risk}

Toxicity data for \textit{R. sachalinensis} extract are not available for all groups considered. Acute ecotoxicity endpoints can be categorized from practically nontoxic to very highly toxic as shown in the following (see Ecotoxicity Classification Table below). Throughout the discussion of ecotoxicity results, these toxicity classes will be used.

\textbf{Acute Ecotoxicity Categories for Terrestrial and Aquatic Organisms.}

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Avian: Acute Oral LD$_{50}^1$ (mg/kg)</th>
<th>Aquatic Organisms: Acute LC$_{50}^2$ (ppm or mg/L)</th>
<th>Wild Mammals: Acute Oral LD$_{50}^1$ (mg/kg)</th>
<th>Non-Target Insects: Acute LD$_{50}^1$ (µg/bee)</th>
</tr>
</thead>
<tbody>
<tr>
<td>very highly toxic</td>
<td>&lt;10</td>
<td>&lt;0.1</td>
<td>&lt;10</td>
<td></td>
</tr>
<tr>
<td>highly toxic</td>
<td>10-50</td>
<td>0.1 - 1</td>
<td>10 - 50</td>
<td>&lt;2</td>
</tr>
<tr>
<td>moderately toxic</td>
<td>51-500</td>
<td>&gt;1 - 10</td>
<td>51 - 500</td>
<td>2 - 11</td>
</tr>
<tr>
<td>slightly toxic</td>
<td>501-2000</td>
<td>&gt;10 - 100</td>
<td>501 - 2000</td>
<td></td>
</tr>
<tr>
<td>practically nontoxic</td>
<td>&gt;2000</td>
<td>&gt;100</td>
<td>&gt;2000</td>
<td>&gt;11</td>
</tr>
</tbody>
</table>

\begin{footnotesize}
\begin{enumerate}
\item LD$_{50}$ is the median lethal dose at which 50\% of the test animals die from the treatment
\item LC$_{50}$ is the median lethal concentration at which 50\% of the test animals die from the treatment
\end{enumerate}
\end{footnotesize}

\textbf{Birds}

The acute oral LD$_{50}$ is greater than 2000 mg \textit{R. sachalinensis} extract/kg body weight (EFSA, 2015). This value indicates \textit{R. sachalinensis} extract is practically nontoxic to birds.
Mammals (see Toxicity section under Human Risk for additional information)

The estimates for the acute oral LD$_{50}$ in rats range from greater than 1000 mg $R.\ sachalinensis$ extract/kg body weight (EFSA, 2015) to greater than 5000 mg $R.\ sachalinensis$ extract/kg body weight (USEPA, 2000b). These values indicate $R.\ sachalinensis$ extract is slightly toxic to practically nontoxic to mammals.

Reptiles

No relevant toxicity data were available for $R.\ sachalinensis$ extract for reptiles.

Amphibians

No relevant toxicity data were available for $R.\ sachalinensis$ extract for amphibians.

Pollinators and other Beneficial Arthropods

The acute oral and contact LD$_{50}$’s in honey bees are greater than 100 µg $R.\ sachalinensis$ extract/bee (EFSA, 2015). These values indicate $R.\ sachalinensis$ extract is practically nontoxic to bees.

In standard laboratory exposures on glass plates, a 1 percent concentration of crude aqueous $R.\ sachalinensis$ extract caused a 27 percent reduction in egg parasitism of the parasitoid wasp, $Trichogramma\ cacoeiae$, and a 1 percent methanol $R.\ sachalinensis$ extract caused 40 percent reduction in parasitism. Less than 30 percent reduction in parasitism is rated as harmless, and 30 to 79 percent is rated as slightly harmful. Higher concentrations of extract sprayed on the glass plates caused greater reductions in parasitism (Hafez et al., 1999).

Soil-Dwelling Invertebrates

The acute (14-day) LC$_{50}$ for earthworms ($Eisenia\ fetida$) is greater than 100 mg $R.\ sachalinensis$ extract/kg dry weight soil, and the chronic (56-day) no observable effect concentration is 12.5 mg $R.\ sachalinensis$ extract/kg dry weight soil (EFSA, 2015).

Fish

The only source for fish toxicity data is the Safety Data Sheet released by the registrant (MBI, 2015). The European Food Safety Authority (EFSA, 2015) deemed the available aquatic toxicity data unreliable, so the data presented here cannot be relied upon to evaluate the true potential for adverse effects. MBI (2015) states the acute LC$_{50}$ for fathead minnow ($Pimephales\ promelas$) is greater than 10.18 mg/L, and the LC$_{50}$ for rainbow trout ($Oncorhynchus\ mykiss$) is 17.885 mg/L. The stated data indicate the toxicity category for fish could be slightly toxic.
Aquatic Invertebrates

The only source for aquatic invertebrate toxicity data is the Safety Data Sheet released by the registrant (MBI, 2015). The European Food Safety Authority (EFSA, 2015) deemed the available aquatic toxicity data unreliable, so the data presented here cannot be relied upon to evaluate the true potential for adverse effects. MBI (2015) states the acute EC$_{50}$ for the water flea (*Daphnia magna*) is 50 mg/L. The stated data indicate the toxicity category for aquatic invertebrates could be slightly toxic.

Conclusions

No toxicity data were available for amphibians or reptiles and the data available for fish and aquatic invertebrates might be of questionable value. With that said, the available data do not suggest that *R. sachalinensis* extract is highly toxic to ecological receptors. The available data indicate that *R. sachalinensis* extract is slightly toxic or practically nontoxic to birds, mammals, pollinators, freshwater fish, and aquatic invertebrates. Other beneficial arthropods might suffer slight adverse effects following use of *R. sachalinensis* extract as a pesticide for cultivation of cannabis, but other species would have a low potential for adverse effects.

References


Environmental Fate & Toxicology Summary
Rosemary Oil
(CAS # 8000-25-7)

Introduction

Rosemary oil is an essential oil derived from the species *Rosmarinus officinalis*. Its leaves are commonly used as a flavoring and fragrance agent (al-Sereiti et al., 1999). Rosemary oil is composed of over twenty different compounds, including \( p \)-cymene, linalool, and gamma-terpinene as the most concentrated constituents (Ozcan and Chalcat, 2008). Rosemary oil acts through direct contact as a repellent or killing agent against insects and mites (Clemson, 2005). Although the mode of action of most essential oils is equivocal, rosemary oil is suspected to be neurotoxic to insects (Isman and Machial, 2006; Tripathi et al., 2009). As of 2016, six products were registered for use in California that list rosemary oil as the active ingredient (DPR, 2016). However, rosemary oil qualifies for exemption under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) section 25(b) as a minimum risk pesticide and 3 CCR 6147 as a reduced risk pesticide. Therefore, registration is not required on a federal or state level (USEPA, 2015; 3 CCR 6147). Rosemary oil is often combined with other vegetable and essential oils as active ingredients in formulated pesticide products (CDA, 2017).

Example of Formulated Products*

Ed Rosenthal’s Zero Tolerance™ Herbal Pesticide; Brandt EcoTec®

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Commonly Targeted Pest:

Aphids, beetles, leafhoppers, mites, whiteflies, caterpillars (when combined with other vegetable and essential oils) (Dr. Earth, Inc., undated; Brandt Consolidated, Inc, 2012)

Environmental Fate

The action of rosemary oil as a pesticide is thought to be temporary, due to its action as a contact-pesticide. Essential oils are relatively insoluble in water and tend to oxidize in aerobic conditions (Tripathi et al., 2009). Rosemary oil is volatile and readily degrades in the environmental (Tripathi et al., 2009).

Human Risk

Toxicity

Acute toxicity endpoints can be categorized from lowest toxicity to highest toxicity as shown in the table below. Throughout the discussion of human toxicity, these classifications will be referenced.
Acute Toxicity Categories for Human

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<th>Acute Inhalation LC$_{50}^2$</th>
<th>Acute Dermal LD$_{50}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category I (highest toxicity)</td>
<td>≤ 50 mg/kg</td>
<td>≤ 0.2 mg/L</td>
<td>≤ 200 mg/kg</td>
</tr>
<tr>
<td>Category II (moderately toxic)</td>
<td>&gt;50 - 500 mg/kg</td>
<td>&gt;0.2 - 2 mg/L</td>
<td>&gt;200 - 2000 mg/kg</td>
</tr>
<tr>
<td>Category III (slightly toxic)</td>
<td>&gt;500 - 5000 mg/kg</td>
<td>&gt;2 - 20 mg/L</td>
<td>&gt;2000 - 20,000 mg/kg</td>
</tr>
<tr>
<td>Category IV (lowest toxicity)</td>
<td>&gt;5000 mg/kg</td>
<td>&gt;20 mg/L</td>
<td>&gt;20,000 mg/kg</td>
</tr>
</tbody>
</table>

Reference: 40 CFR 156.62
1. LD$_{50}$ is the median lethal dose at which 50% of the test animals die from the treatment.
2. LC$_{50}$ is the median lethal concentration at which 50% of the test animals die from the treatment.

Rosemary has been used safely in food, aromatherapy, and personal care products for hundreds of years. Limited information is available regarding its toxicity. One study estimated the acute oral LD$_{50}$ to be 5,500 mg/kg, classifying it in Toxicity Category IV (least toxic) (Fahim et al., 1999). No inhalation LC$_{50}$ nor dermal LD$_{50}$ were reported. Rosemary oil has no known adverse human health effects. No other toxicological endpoints or No Observed Adverse Effect Levels (NOAELs) were available for the pathways and durations considered. The Food and Drug Administration (FDA) recognizes essential oils, including rosemary oil, as ‘generally safe’ when used as a food additive (21 CFR 182.20). Some reports indicate that rosemary oil may have therapeutic potential in treating symptoms of bronchial asthma, inflammatory diseases, hepatotoxicity, cataracts, poor sperm motility, and cancer (al-Sereiti et al., 1999). Although rosemary oil may cause dermal irritation, its use in aromatherapy, personal care products (such as perfume and cologne), and registered use on the human body as a bug repellant supports its safe use through the dermal pathway (Tripathi et al., 2009; DPR 2016). Based on this information, no adverse effects to human health are anticipated when rosemary oil is used as a pesticide.

Between 1992 and 2014, rosemary oil was not implicated as the only pesticide involved in any human incident reports in California agricultural settings (DPR, 2017).

Genotoxicity: Genotoxicity testing of rosemary extracts, including both in vitro and in vivo studies, indicated that rosemary extracts indicated no signs of genotoxicity (EFSA, 2008). No further information was available regarding the genotoxic potential of rosemary oil.

Mutagenicity: Studies in mice have tested up to 1,500 mg/kg body weight rosemary extract orally without observations of mutagenicity (EFSA, 2008). Rosemary extract has been reported to elicit antimutagenic effects in multiple in vitro studies (EFSA, 2008). No further information was available regarding the mutagenic potential of rosemary.

Appendix F-247
Neurotoxicity: Rosemary oil, comprised primarily of monoterpenes (Hcini et al., 2013), is suspected to have insecticidal properties through a neurotoxic mode of action (Isman and Machial, 2006; Tripathi et al., 2009). Monoterpenes are reported to impact the octopaminergic system, which serves a critical role in the nervous system of insects but not mammals. Because vertebrates do not have octopamine receptors, this potentially accounts for the selectivity of rosemary oil (Tripathi et al., 2009). Linalool, a primary constituent of rosemary oil, is also reported to interact with the peripheral nervous system of mice. However, these effects are not adverse and potentially have therapeutic uses (Re et al., 2000). Therefore, no adverse neurotoxic effects are anticipated to human health when rosemary oil is applied as a pesticide.

Reproductive/Developmental Toxicity: Rosemary oil is reported to interfere with octopamine, a neurotransmitter and neurohormone in insects. Due to the lack of octopamine receptors in vertebrates, this would not impact the endocrine system of mammals (Tripathi et al., 2009). Rosemary oil is not listed as a developmental toxicant on the Proposition 65 list (OEHHA, 2016). No further information was available regarding the reproductive or developmental toxicity potential of rosemary oil.

Dermal Absorption Factor (DAF): No DAF was available for rosemary oil.

Carcinogenicity: Current scientific literature does not indicate that rosemary oil has carcinogenic potential. Rosemary extracts are reported to have antioxidant properties in vivo which may be protective of carcinogenicity (EFSA, 2008). Rosemary oil is not listed as a suspected carcinogen by the World Health Organization nor is listed as a carcinogen on Proposition 65 (OEHHA, 2016; WHO, 2016). No further information was available regarding the carcinogenic potential of rosemary oil.

Skin, Eye, or Lung Irritation: Rosemary oil can cause skin and eye irritation in sensitive individuals (DPR, 1999).

Exposure

Exposure pathways considered were ingestion, inhalation, and dermal absorption. Contact with pesticide residues may occur during pesticide mixing, loading or application or when handling treated cannabis crop. Although cultivators are not anticipated to intentionally ingest pesticide residues, incidental hand-to-mouth ingestion of pesticide residues may occur if hands are not properly washed and proper care is not taken to avoid unintentional transfer of pesticide residues on hands to mouth. Aerosolized pesticide from the use of application equipment, such as backpack sprayers, may be present and as a result, there is a potential for inhalation exposure during application. Because of the volatile properties of rosemary oil, it is expected to partition into air from plants or soil post-application. Use of respirators is not required for all product formulations containing rosemary oil as the active ingredient (Dr. Earth, Inc., undated; Brandt Consolidated, Inc, 2012). Labeling instructions require applicators to use long-sleeved clothing, pesticide-resistant gloves, closed-toed shoes with socks, and safety glasses when the active ingredient is greater than 8.5 percent, reducing the potential for dermal and eye exposure (DPR, 1999). Rosemary oil degrades quickly in the environmental and is not expected to persist (Tripathi et al., 2009) such that long-term exposure to cultivators would occur.
Conclusion

Exposure to rosemary oil when used as a pesticide is expected due to the low personal protective equipment requirements and the general volatility of essential oils. However, based on its low mammalian toxicity and history of safe use as a food additive and personal care product, rosemary oil is not anticipated to have adverse effects on human health for any exposure pathway when used as a pesticide. Rosemary oil has no known adverse human health effects and no NOAELs were available for the acute, subchronic, or chronic oral, inhalation, or dermal pathway. Based on the low mammalian toxicity and safe history of use as a pesticide and as a food ingredient, rosemary oil is not anticipated to result in unacceptable risk to cultivators when applied as a pesticide in cannabis cultivation.

Cultivators applying pesticides should always read and follow the label, SDS and relevant DPR documents including the DPR Pesticide Safety Information Series (PSIS) (DPR, 2015), DPR Compliance Assistant Booklet for Employers (DPR, 2010a) and the DPR Pesticide Use Compliance Guide for Employers and Businesses (DPR, 2010b).

Ecological Risk

Acute ecotoxicity endpoints can be categorized from practically nontoxic to very highly toxic (see Ecotoxicity Classification Table below). Throughout the discussion of ecotoxicity results, these toxicity classes will be used.

Acute Ecotoxicity Categories for Terrestrial and Aquatic Organisms.

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Avian: Acute Oral LD₅₀¹ (mg/kg)</th>
<th>Aquatic Organisms: Acute LC₅₀² (ppm or mg/L)</th>
<th>Wild Mammals: Acute Oral LD₅₀ (mg/kg)</th>
<th>Non-Target Insects: Acute LD₅₀ (µg/bee)</th>
</tr>
</thead>
<tbody>
<tr>
<td>very highly toxic</td>
<td>&lt;10</td>
<td>&lt;0.1</td>
<td>&lt;10</td>
<td>&lt;2</td>
</tr>
<tr>
<td>highly toxic</td>
<td>10-50</td>
<td>0.1 - 1</td>
<td>10 - 50</td>
<td>&lt;2</td>
</tr>
<tr>
<td>moderately toxic</td>
<td>51-500</td>
<td>&gt;1 - 10</td>
<td>51 - 500</td>
<td>2 - 11</td>
</tr>
<tr>
<td>slightly toxic</td>
<td>501-2000</td>
<td>&gt;10 - 100</td>
<td>501 - 2000</td>
<td>&gt;11</td>
</tr>
<tr>
<td>practically nontoxic</td>
<td>&gt;2000</td>
<td>&gt;100</td>
<td>&gt;2000</td>
<td>&gt;11</td>
</tr>
</tbody>
</table>

Taken from USEPA, 2012

¹ LD₅₀ is the median lethal dose at which 50% of the test animals die from the treatment

² LC₅₀ is the median lethal concentration at which 50% of the test animals die from the treatment

Birds

No relevant toxicity data were available for rosemary oil for birds.

Mammals (see Toxicity section under Human Risk for additional information)

One acute oral toxicity test estimated the LD₅₀ to be 5,500 mg/kg (Fahim et al., 1999) whereas two other tests failed to identify a specific LD₅₀ with estimates of greater than 2,000 mg/kg (Anadon et al., 2008) and greater than 4,300 mg/kg (EFSA, 2008). In another study, oral gavage doses daily for 7 days at up to 20 mg/kg in mice provided analgesic properties, but did not
appear to cause any adverse effects (Raskovic et al., 2015). The estimated acute toxicity results provide sufficient evidence to classify rosemary oil as practically nontoxic to mammals (see Ecotoxicity Classification Table above).

Reptiles

No relevant toxicity data were available for rosemary oil for reptiles.

Amphibians

No relevant toxicity data were available for rosemary oil for amphibians.

Pollinators

Various pollinators and flower visiting insects and ground arthropods were monitored following application of Eco-Exempt IC2 manufactured by EcoSMART Technologies, Inc., Roswell, GA, a minimum-risk botanical pesticide with active ingredients 10% rosemary oil, 2% peppermint oil, and 88% other ingredients (wintergreen oil, mineral oil, and vanillin). The ground-dwelling arthropods were more greatly impacted than pollinators flying in to visit flowers because the ground-dwelling arthropods experienced greater exposure (Elias et al., 2013).

Soil-Dwelling Invertebrates

No relevant toxicity data were available for rosemary oil for earthworms or other soil-dwelling invertebrates.

Fish

No relevant toxicity data were available for rosemary oil for fish.

Aquatic Invertebrates

No relevant toxicity data were available for rosemary oil for aquatic invertebrates.

Conclusions

No long-term oral toxicity studies were identified for any group. Acute oral toxicity data available for mammals was sufficient to classify rosemary oil as practically nontoxic to mammals. The lack of toxicity data for birds, amphibians, reptiles, soil-dwelling invertebrates, pollinators, and aquatic species precludes a conclusive determination of risk potential for these groups. However, the low potential for risk in mammals, suggests there is not likely a high potential for adverse effects in any terrestrial vertebrate groups.

Since the one study investigating pollinator and other insects following an application of a rosemary oil-containing pesticide indicated a possibility of adverse effects for pollinators and other insects, rosemary oil should not be applied when pollinators are present or allowed to drift.
to flowers attractive to pollinators following applications of rosemary oil as a pesticide in cannabis cultivation.

The complete lack of aquatic toxicity data dictates the precaution that rosemary oil not be allowed to drift to or otherwise move to surface waters following applications of rosemary oil in cannabis cultivation.

References


Environmental Fate & Toxicology Summary
Sesame Oil
(CAS # 8008-74-0)

Introduction

Sesame oil is the vegetable oil derived from sesame (Sesamum indicum) seeds, known commonly for its use in cooking, cosmetic products, and as a pharmaceutical vehicle for lipophilic (lipid-loving) chemicals (CIR, 2011; Sigma-Aldrich, 2016). Sesame oil is chemically composed of oleic acid, linoleic acid, palmitic acid, and stearic fatty acids. Like most vegetable oils, sesame oil acts as an insecticide and miticide by smothering eggs, larvae, and nymphs, as well as soft-bodied adult species (Chalker-Scott, 2015; Skelly, 2013). As a fungicide, it suffocates fungal spores and prevents their attachment to host plants (Chalker-Scott, 2015). As of 2016, no products were registered with the USEPA or DPR that list sesame oil as an active ingredient (DPR, 2017a). However, sesame oil qualifies for exemption from registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Section 25 (b) as a minimum risk pesticide and reduced-risk pesticide under 3 CCR 6147. Therefore, registration is not required. Sesame oil is often combined with other vegetable and essential oils in various pesticide products (CDA, 2017).

Example of Formulated Products*

Organocide® 3-in-1 Garden Spray Ready to Spray; Guard ‘N Spray®

*Reference to any specific product is for informational purposes only and does not constitute an endorsement or recommendation. Always read and follow label directions. If a label is unavailable, follow guidance in the product’s Safety Data Sheet (SDS) and/or in one or more of the following DPR documents: Pesticide Safety Information Series (PSIS); Compliance Assistance Booklets for Employers; and Pesticide Use Compliance Guide for Employers and Businesses.

Commonly Targeted Pest:

Aphids, mites, leafrollers, mealy bugs, thrips, whiteflies, and downy mildew (Organic Laboratories, Inc., 2017)

Environmental Fate

Most vegetable oils have a low vapor pressure, are insoluble in water, and relatively biodegradable (Aluyor et al., 2009). The insecticidal activity of sesame oil within the environment is thought to be temporary, due to its action as a contact-pesticide (Bogran et al., 2006; Chalker-Scott, 2015). Because of its rapid degradation in the environment, sesame oil is not expected to persist when applied as a pesticide (Aluyor et al., 2009).
Human Risk

Toxicity

Acute toxicity endpoints can be categorized from lowest toxicity to highest toxicity as shown in the table below. Throughout the discussion of human toxicity, these classifications will be referenced.

### Acute Toxicity Categories for Human

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Acute Oral LD$_{50}^1$</th>
<th>Acute Inhalation LC$_{50}^2$</th>
<th>Acute Dermal LD$_{50}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity Category I (highest toxicity)</td>
<td>≤ 50 mg/kg</td>
<td>≤ 0.2 mg/L</td>
<td>≤ 200 mg/kg</td>
</tr>
<tr>
<td>Toxicity Category II (moderately toxic)</td>
<td>&gt;50 - 500 mg/kg</td>
<td>&gt;0.2 - 2 mg/L</td>
<td>&gt;200 - 2000 mg/kg</td>
</tr>
<tr>
<td>Toxicity Category III (slightly toxic)</td>
<td>&gt;500 - 5,000 mg/kg</td>
<td>&gt;2 - 20 mg/L</td>
<td>&gt;2000 - 20,000 mg/kg</td>
</tr>
<tr>
<td>Toxicity Category IV (lowest toxicity)</td>
<td>&gt;5000 mg/kg</td>
<td>&gt; 20 mg/L</td>
<td>&gt;20,000 mg/kg</td>
</tr>
</tbody>
</table>

Reference: 40 CFR 156.62
1. LD$_{50}$ is the median lethal dose at which 50% of the test animals die from the treatment
2. LC$_{50}$ is the median lethal concentration at which 50% of the test animals die from the treatment

Sesame oil has a safe history of use as a food and in the pharmaceutical industry (CIR, 2011; Sigma-Aldrich, 2016). The LD$_{50}$ of sesame oil has been reported as greater than 10,000 mg/kg through the acute oral exposure pathway in mice, classifying it in Toxicity Category IV (lowest toxicity) (HSDB, 2014; 40 CFR 156.62). No inhalation LC$_{50}$ was available. The dermal LD$_{50}$ has been reported as greater than 2,000 mg/kg in rabbits, indicating that sesame oil may be Toxicity Category III (slightly toxic) or Toxicity Category IV (lowest toxicity); however, no studies were available evaluating toxicity at higher doses to definitively categorize sesame oil dermal toxicity (HSDB, 2014). No No Observed Adverse Effect Levels (NOAELs) were available for any exposure route or duration. Sesame seeds and their distillates are generally recognized as safe (GRAS) by the Food and Drug Administration (FDA) (21 CFR 182.20). Sesame oil may have therapeutic uses in treating lead and iron poisoning (Chandrasekaran et al., 2014). Pesticide products containing sesame oil are not expected to pose any serious or permanent toxicity to human health through the acute, subchronic, or chronic oral pathways.

No human incidents were reported in California agricultural settings between 1992 and 2014 involving sesame oil as the only implicated active ingredient (DPR, 2017b).

**Genotoxicity:** No information was available regarding the genotoxic potential of sesame oil.
**Mutagenicity:** Ames mutagenicity testing reported negative results at room temperature (HSDB, 2014). No further information was available regarding the mutagenic potential of sesame oil.

**Neurotoxicity:** Sesame oil is not known to have a neurotoxic mode of action (HSDB, 2014; Chalker-Scott, 2015). In addition, sesame oil is used as an inert (i.e., non-reactive) control and delivery media for fat-soluble compounds in neurotoxicity laboratory studies (Sigma-Aldrich, 2016; Ghazvini et al., 2016). Therefore, adverse neurotoxic effects are not anticipated when sesame oil is used as a pesticide.

**Reproductive/Developmental Toxicity:** Current studies suggest sesame oil does not have adverse teratogenic effects through any exposure route relevant to cultivators (CIR, 2011). In addition, sesame oil is commonly used as an inert (i.e., non-reactive) control and delivery media for fat-soluble compounds in reproductive and developmental laboratory studies (Ghazvini et al., 2016; Sigma-Aldrich, 2016). Therefore, adverse reproductive and developmental toxicity is not anticipated when sesame oil is used as a pesticide. Sesame oil is not listed as a developmental toxicant on the Proposition 65 list (OEHHA, 2016).

**Dermal Absorption Factor (DAF):** No DAF was available for sesame oil.

**Carcinogenicity:** Studies investigating sesame oil exposure through the subcutaneous route reported fresh sesame oil is not likely to be carcinogenic, although sesame oil may be cocarcinogenic when heated or rancid through subcutaneous injection (NTP, 1991). However, this route of exposure is not occupationally relevant. Sesame oil is not listed as a suspected carcinogen by the World Health Organization nor is listed as a carcinogen on Proposition 65 (OEHHA, 2016; WHO, 2016). No further information was available regarding the carcinogenic potential of sesame oil.

**Skin, Eye, or Lung Irritation:** Sesame oil exposure may potentially be irritating to the skin and eyes (NTP, 1991).

**Exposure**

Exposure pathways considered were ingestion, inhalation, and dermal absorption. Contact with pesticide residues is anticipated to occur during application or when handling treated cannabis crop. Although cultivators are not anticipated to intentionally ingest pesticide solutions, incidental hand-to-mouth ingestion of pesticide residues may occur if hands are not properly washed and proper care is not taken to avoid unintentional transfer of residues from hands to mouth. Aerosolized pesticide from the use of application equipment, such as backpack sprayers, may be present and as a result, there is a potential for inhalation exposure during application. Use of respirators is not required for all product formulations containing sesame oil as the active ingredient (DPR, 1999; Organic Laboratories, Inc., undated). Because of the low vapor pressure of sesame oil, inhalation exposure from volatilized pesticide residues from plants and soil post-application is negligible (Murata et al., 1993; Aluyor et al., 2009). Although there is the potential for dermal and eye exposure, label instructions often recommend occupational workers use long-sleeved clothing, pesticide-resistant gloves, closed-toed shoes with socks, and safety glasses (Thermo Fisher Scientific, 2015; Organic Laboratories, Inc., undated; ). Vegetable oils typically
degrade quickly in the environment (Aluyor et al., 2009), decreasing the potential for long-term, post-application exposure.

Conclusion

Based on available toxicity data, sesame oil is not expected to have adverse effects on human health for any exposure pathway. No NOAELs were available for the pathways and durations considered. Because of the low toxicity, personal protection equipment (PPE) requirements are minimal and therefore, exposure is expected. However, based on the low mammalian toxicity, safe history of use as a pesticide and as a food ingredient, and rapid environmental degradation, sesame oil is not anticipated to result in unacceptable risk to cultivators when applied as a pesticide in cannabis cultivation.

Cultivators applying pesticides should always read and follow the label, SDS and relevant DPR documents including the DPR Pesticide Safety Information Series (PSIS) (DPR, 2015), DPR Compliance Assistant Booklet for Employers (DPR, 2010a) and the DPR Pesticide Use Compliance Guide for Employers and Businesses (DPR, 2010b).

Ecological Risk

Acute ecotoxicity endpoints can be categorized from practically nontoxic to very highly toxic (see Ecotoxicity Classification Table below). Throughout the discussion of ecotoxicity results, these toxicity classes will be used.

Acute Ecotoxicity Categories for Terrestrial and Aquatic Organisms.

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<th>Toxcity Category</th>
<th>Avian: Acute Oral LD₅₀ (mg/kg)</th>
<th>Aquatic Organisms: Acute LC₅₀ (ppm or mg/L)</th>
<th>Wild Mammals: Acute Oral LD₅₀ (mg/kg)</th>
<th>Non-Target Insects: Acute LD₅₀ (µg/bee)</th>
</tr>
</thead>
<tbody>
<tr>
<td>very highly toxic</td>
<td>&lt;10</td>
<td>&lt;0.1</td>
<td>&lt;10</td>
<td></td>
</tr>
<tr>
<td>highly toxic</td>
<td>10-50</td>
<td>0.1 - 1</td>
<td>10 - 50</td>
<td>&lt;2</td>
</tr>
<tr>
<td>moderately toxic</td>
<td>51-500</td>
<td>&gt; 1 - 10</td>
<td>51 - 500</td>
<td>2 - 11</td>
</tr>
<tr>
<td>slightly toxic</td>
<td>501-2000</td>
<td>&gt; 10 - 100</td>
<td>501 - 2000</td>
<td></td>
</tr>
<tr>
<td>practically nontoxic</td>
<td>&gt;2000</td>
<td>&gt;100</td>
<td>&gt;2000</td>
<td>&gt;11</td>
</tr>
</tbody>
</table>

Taken from USEPA, 2012

1 LD₅₀ is the median lethal dose at which 50% of the test animals die from the treatment
2 LC₅₀ is the median lethal concentration at which 50% of the test animals die from the treatment

Birds

No relevant toxicity data were available for sesame oil for birds.

Mammals (see Toxicity section under Human Risk for additional information)

The acute oral LD₅₀ in mice was estimated as greater than 10,000 mg/kg (Kobayashi et al., 2001 in Johnson et al., 2011). The estimated acute toxicity results provide sufficient evidence to
classify sesame oil as practically nontoxic to mammals (see Ecotoxicity Classification Table above).

**Reptiles**

Common lizard (*Lacerta vivipara*) were dermally dosed with 4.5 µL/animal, one time and observed for 45 days. There were no apparent adverse effects of dermally applied sesame oil (Meylan et al., 2003).

**Amphibians**

No relevant toxicity data were available for sesame oil for amphibians.

**Pollinators**

No relevant toxicity data were available for sesame oil for pollinators.

**Soil-Dwelling Invertebrates**

No relevant toxicity data were available for sesame oil for earthworms or other soil-dwelling invertebrates.

**Fish**

Rainbow trout (*Oncorhynchus mykiss*) were fed diet containing 50,000 ppm sesame oil for 15 months. No adverse effects were observed (Lee et al., 1968).

**Aquatic Invertebrates**

No relevant toxicity data were available for sesame oil for aquatic invertebrates.

**Conclusions**

No long-term oral toxicity studies were identified for any group. Acute oral toxicity data available for mammals was sufficient to classify sesame oil as practically nontoxic to mammals. The lack of toxicity data for birds, amphibians, soil-dwelling invertebrates, pollinators, and aquatic invertebrates precludes a conclusive determination of risk potential for these groups. However, the low potential for risk in mammals, suggests there is not likely a high potential for adverse effects in any terrestrial vertebrate groups which is supported by the lack of dermal toxicity findings in lizards.

Since no information on toxicity to pollinators and other insects following an application of a sesame oil-containing pesticide was available, precaution dictates sesame oil should not be applied when pollinators are present or allowed to drift to flowers attractive to pollinators following applications of sesame oil as a pesticide in cannabis cultivation.
The one study on aquatic toxicity was for exposure via the diet in rainbow trout, which is not the standard exposure route for fish. However, the extremely high dietary concentration suggests that exposure via any route is unlikely to cause adverse effects. Since no toxicity data were available for aquatic invertebrates, and aquatic invertebrates often exhibit greater sensitivity than fish, precaution dictates that sesame oil should not be allowed to drift to, or otherwise move to surface waters.

References


Environmental Fate & Toxicology Summary
Sodium Chloride
(CAS # 7647-14-5)

Introduction

Sodium chloride, alternatively known as sea salt or table salt, is ubiquitous in nature and used as a food seasoning and preservative (USEPA, 2009). It is also permitted for use as an active or inert ingredient in mollusicides, fungicides, and bactericides, often in combination with other active ingredients (USEPA, 1993; 2009). When used as an antimicrobial or a preservative, sodium chloride inhibits microorganism growth and cellular integrity by interfering with osmotic pressure (Neysens et al., 2003). As of 2016, seven products were registered in California that list sodium chloride as an active ingredient. However, sodium chloride qualifies for exemption under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Section 25 (b) as a minimum-risk pesticide and 3 CCR 6147 as a reduced-risk pesticide. Therefore, registration is not required. (USEPA, 2015; 3 CCR 6147)

Example of Formulated Products*

PureAg® Pest Control Food Grade (in combination with other active ingredients)

*Reference to any specific product is for informational purposes only and does not constitute an endorsement or recommendation. Always read and follow label directions. If a label is unavailable, follow guidance in the product’s Safety Data Sheet (SDS) and/or in one or more of the following DPR documents: Pesticide Safety Information Series (PSIS); Compliance Assistance Booklets for Employers; and Pesticide Use Compliance Guide for Employers and Businesses.

Commonly Targeted Pest:

Snails, slugs, bacteria, and fungi (USEPA, 1993)

Environmental Fate

The parent compound and its dissociated ions are abundant in the environment and living entities (USEPA, 1993; 2009). Sodium chloride is a solid salt at room temperature and has a low vapor pressure (Zimm and Mayer, 1944). As an inorganic salt, sodium chloride is not expected to bioaccumulate (USEPA, 2009).

Human Risk

Toxicity

Acute toxicity endpoints can be categorized from lowest toxicity to highest toxicity as shown in the table below. Throughout the discussion of human toxicity, these classifications will be referenced.
Acute Toxicity Categories for Human

Sodium chloride is commonly used as a seasoning in human cuisine and found throughout nature. The acute oral LD$_{50}$ of sodium chloride in rats is estimated to be 3,000 mg/kg, classifying it as a Toxicity Category III (slightly toxic) chemical through the acute, oral route of exposure (USEPA, 1993; HSDB, 2014). No LD$_{50}$ was available for either the acute inhalation or dermal exposure pathway. Sodium chloride can cause slight skin irritation and moderate eye irritation in sensitive individuals (USEPA, 1993). No other toxicological endpoints were available for the pathways and durations considered (USEPA, 2009). The Food and Drug Administration (FDA) recognizes sodium chloride as ‘generally safe’ as a food additive (21 CFR §182.70). Pesticide products containing sodium chloride as the active ingredient are not expected to pose any serious or permanent adverse effects to human health through the acute, subchronic, or chronic oral, inhalation, or dermal pathways due to its safe history of use, status as a food additive, and the lack of No Observed Adverse Effect Levels (NOAELs).

Between 1992 and 2014, there have been no human incident reports in California agricultural settings in which sodium chloride was the only implicated active ingredient (DPR, 2017).

**Genotoxicity:** The current scientific literature indicates that sodium chloride does not elicit chromosomal aberrations in *in vitro* assays nor in mice (NTP, 2016). In addition, its safe history of use and low toxicity indicates no adverse genotoxic effects are anticipated when sodium chloride is used as a pesticide.

**Mutagenicity:** The current scientific literature indicates that sodium chloride tests negative for mutagenicity in Ames Testing (NTP, 2016). No further information was available regarding the mutagenic potential of sodium chloride.

**Neurotoxicity:** Cultured neurons have been reported to exhibit excitotoxicity and ultimately cytotoxicity in the presence of high concentrations of sodium chloride (Hasbani et al., 1998; Morland 2016). Symptoms of acute oral sodium chloride toxicity include convulsions, muscle

### Acute Toxicity Categories for Human

<table>
<thead>
<tr>
<th>Toxicity Category (highest toxicity)</th>
<th>Acute Oral LD$_{50}^1$</th>
<th>Acute Inhalation LC$_{50}^2$</th>
<th>Acute Dermal LD$_{50}$</th>
</tr>
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<tr>
<td>Toxicity Category I (highest toxicity)</td>
<td>≤ 50 mg/kg</td>
<td>≤ 0.2 mg/L</td>
<td>≤ 200 mg/kg</td>
</tr>
<tr>
<td>Toxicity Category II (moderately toxic)</td>
<td>&gt;50 - 500 mg/kg</td>
<td>&gt;0.2 - 2 mg/L</td>
<td>&gt;200 - 2000 mg/kg</td>
</tr>
<tr>
<td>Toxicity Category III (slightly toxic)</td>
<td>&gt;500 - 5,000 mg/kg</td>
<td>&gt;2 - 20 mg/L</td>
<td>&gt;2000 - 20,000 mg/kg</td>
</tr>
<tr>
<td>Toxicity Category IV (lowest toxicity)</td>
<td>&gt;5000 mg/kg</td>
<td>&gt;20 mg/L</td>
<td>&gt;20,000 mg/kg</td>
</tr>
</tbody>
</table>

Reference: 40 CFR 156.62
1. LD$_{50}$ is the median lethal dose at which 50% of the test animals die from the treatment
2. LC$_{50}$ is the median lethal concentration at which 50% of the test animals die from the treatment
tremors, cerebral edema, and tachycardia, all of which are can be indicative of neurotoxicity (HSDB, 2014). However, adverse neurotoxic effects are not anticipated when sodium chloride is applied as a pesticide because the dosing and route of exposure required to induce these effects is unlikely in agricultural settings.

Reproductive/Developmental Toxicity: Sodium chloride was not found to be teratogenic in rats through occupationally relevant exposure pathways (Bellaire Oil Company, 2016). In addition, sodium chloride has a safe history of use and low general toxicity. Therefore, adverse reproductive and developmental toxicity is not anticipated when sodium chloride is used as a pesticide. Sodium chloride is not listed as a developmental toxicant on the Proposition 65 list (OEHHA, 2016).

Dermal Absorption Factor (DAF): No DAF was available for sodium chloride.

Carcinogenicity: Sodium chloride is not listed as a suspected carcinogen by the World Health Organization nor is listed as a carcinogen on Proposition 65 (OEHHA, 2016; WHO, 2016). No further information was available regarding the carcinogenic potential of sodium chloride.

Skin, Eye, or Lung Irritation: Sodium chloride can cause slight skin irritation and moderate eye irritation to sensitive individuals (USEPA, 1993).

Exposure

Exposure pathways considered were ingestion, inhalation, and dermal absorption. Contact with pesticide residues may occur during pesticide mixing, loading or application or when handling treated cannabis crop. Although cultivators are not anticipated to intentionally ingest pesticide residues, incidental hand-to-mouth ingestion of pesticide residues may occur if hands are not properly washed and proper care is not taken to avoid unintentional transfer of pesticide residues on hands to mouth. Aerosolized pesticide from the use of application equipment, such as backpack sprayers, may be present and as a result, there is a potential for inhalation exposure during application. Because sodium chloride is a solid inorganic salt at room temperature, its tendency to partition into the air from foliage or soil post-application is minimal once the pesticide has dried. Although there is the potential for dermal and eye exposure, many products containing sodium chloride as an active ingredient require protective equipment, such as long-sleeved clothing, pesticide-resistant gloves, closed-toed shoes with socks, and safety glasses reducing this exposure (USEPA, 1993; 2009). Additionally, dermal and eye exposure, including that which could result in irritation, is reduced by the extensive dilution of active ingredient in formulated pesticide products (USEPA, 2009).

Conclusion

Based on available toxicity data, use of sodium chloride as a pesticide is not anticipated to have adverse effects to human health for any exposure pathway. No NOAELs were available for any exposure duration or pathway. Based on the low mammalian toxicity and safe history of use as a pesticide and as a food ingredient, sodium chloride is not anticipated to result in unacceptable risk to cultivators when applied as a pesticide in cannabis cultivation.
Cultivators applying pesticides should always read and follow the label, SDS and relevant DPR documents including the DPR Pesticide Safety Information Series (PSIS) (DPR, 2015), DPR Compliance Assistant Booklet for Employers (DPR, 2010a) and the DPR Pesticide Use Compliance Guide for Employers and Businesses (DPR, 2010b).

Ecological Risk

Acute ecotoxicity endpoints can be categorized from practically nontoxic to very highly toxic (see Ecotoxicity Classification Table below). Throughout the discussion of ecotoxicity results, these toxicity classes will be used.

### Ecotoxicity Classification Table

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Avian: Acute Oral LD50&lt;sup&gt;1&lt;/sup&gt; (mg/kg)</th>
<th>Aquatic Organisms: Acute LC50&lt;sup&gt;2&lt;/sup&gt; (ppm or mg/L)</th>
<th>Wild Mammals: Acute Oral LD50 (mg/kg)</th>
<th>Non-Target Insects: Acute LD50 (µg/bee)</th>
</tr>
</thead>
<tbody>
<tr>
<td>very highly toxic</td>
<td>&lt;10</td>
<td>&lt;0.1</td>
<td>&lt;10</td>
<td>&lt;2</td>
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<tr>
<td>highly toxic</td>
<td>10-50</td>
<td>0.1 - 1</td>
<td>10 - 50</td>
<td>&lt;2</td>
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<tr>
<td>moderately toxic</td>
<td>51-500</td>
<td>&gt;1 - 10</td>
<td>51 - 500</td>
<td>2 - 11</td>
</tr>
<tr>
<td>slightly toxic</td>
<td>501-2000</td>
<td>&gt;10 - 100</td>
<td>501 - 2000</td>
<td></td>
</tr>
<tr>
<td>practically nontoxic</td>
<td>&gt;2000</td>
<td>&gt;100</td>
<td>&gt;2000</td>
<td>&gt;11</td>
</tr>
</tbody>
</table>

Taken from USEPA, 2012

<sup>1</sup> LD50 is the median lethal dose at which 50% of the test animals die from the treatment

<sup>2</sup> LC50 is the median lethal concentration at which 50% of the test animals die from the treatment

### Birds

The LD50 for house sparrows (*Passer domesticus*) was 3,181 mg/kg with a NOAEL for clinical signs of 2,000 mg/kg (Bollinger et al., 2005). Excess dietary sodium chloride can be detrimental to birds as documented in that the deaths of a flock of 12,000 five-day-old turkey poults resulted from 1.85 percent (18,500 ppm) sodium chloride in the diet (Swayne et al., 1986). This information is sufficient to classify sodium chloride as practically nontoxic to birds (see Ecotoxicity Classification Table above).

Salt poisoning can occur when birds ingest excessive amounts of sodium chloride. Sources include mineral blocks, high salt content chick mashes, and pickling brines. Histopathologic examination demonstrates degenerative changes in heart, liver, and kidneys (Feldman and Kruckenberg, 1975).

### Mammals (see Toxicity section under Human Risk for additional information)

The acute oral LD50 in rats was 3,000 mg/kg (HSDB, 2014) which is sufficient to classify sodium chloride as practically nontoxic to mammals (see Ecotoxicity Classification Table above).
Reptiles

No relevant toxicity data were available for sodium chloride for reptiles.

Amphibians

Wood frog (*Rana sylvatica*) tadpoles had an acute LC$_{50}$ 5,109 ppm with increased mortality at the lowest concentration of 3,000 ppm and experienced reduced number of metamorphs at 1,030 ppm after 90 days of exposure (Sanzo and Hecnar, 2006). Many freshwater species, in particular developing aquatic-phase amphibians, can be sensitive to elevated salinity. Balearic green toad (*Bufo balearicus*) tadpoles showed reduced percentage completing metamorphosis, prolonged metamorphosis, and reduced mass at metamorphosis at 5,550 ppm and above, whereas common toad (*Bufo bufo*) tadpoles showed reduced percentage completing metamorphosis, prolonged metamorphosis, and reduced mass at metamorphosis at 3,700 ppm and above (Bernabò et al., 2013). This information is sufficient to classify sodium chloride as practically nontoxic to aquatic-phase amphibians (see Ecotoxicity Classification Table above).

A number of studies reported salt concentrations based on chloride ion concentration. In one study, larval spotted salamander (*Ambystoma maculatum*) had the lowest LC$_{50}$ of 1,178 ppm compared with the LC$_{50}$s in spring peeper (*Pseudacris crucifer*) tadpoles – 2,830 ppm; wood frog tadpoles – 1,721 ppm; green frog (*Rana clamitans*) tadpoles – 3,109 ppm; and American toad (*Bufo americanus*) tadpoles with the highest LC$_{50}$ for chloride ion of 3,925 ppm (Collins and Russell, 2009). Almost all the eggs or embryos of rough-skinned newt (*Taricha granulosa*) exposed to 2,000 ppm chloride ion died or were deformed and exposure to 1000 ppm chloride ion caused an increase in mortality and deformities (Hopkins et al., 2013).

Salt is a natural component of freshwater systems (Bernabò et al., 2013). Spotted salamander tadpoles in the control treatment (1 ppm chloride) increased in mean mass by just over 25 percent after nine days, compared with a loss of nearly 20 percent in tadpoles exposed to 145 ppm and nearly 35 percent exposed to 945 ppm (Karraker and Gibbs, 2011). This studies indicates that much lower concentrations than reported to cause mortality can cause adverse effects.

Pollinators

No relevant toxicity data were available for sodium chloride for pollinators.

Soil-Dwelling Invertebrates

In a laboratory toxicity test exposing the earthworm, *Eisenia fetida*, to treated filter paper sodium was classified as moderately toxic with an LC$_{50}$ between 100 - 1000 µg/cm$^2$ (Roberts and Durough, 1984).
Fish

The LC50 in mosquitofish (*Gambusia holbrooki*) was 11,540 ppm with a No Observed Adverse Effect Concentration (NOAEC) for mortality of 10,300 ppm (Newman and Aplin, 1992). Older fish are more tolerant of sodium chloride as demonstrated by zebrafish (*Danio rerio*) having an LC50 of 6,750 ppm at 10 ± 2 days after hatching and an LC50 of 9,000 ppm at 60 ± 4 days after hatching (Freiry et al., 2014). This information is sufficient to classify sodium chloride as practically nontoxic to fish (see Ecotoxicity Classification Table above).

Exposing fathead minnow (*Pimephales promelas*) to natural stream waters collected from different streams with different salinity levels resulted in adverse effects in fathead minnow tests in samples with chloride concentrations of 2,940 ppm or greater (Corsi et al., 2010). Non-lethal impacts include effects on reproduction. Exposure of Atlantic salmon (*Salmo salar*) to up to 500 ppm road salt did not affect the size of salmon eggs or survival post-fertilization. However, exposure to 5,000 and 10,000 ppm road salt caused a decrease in egg size and reduced survival of fertilized eggs (Mahrosh et al., 2014).

The toxicity of sodium chloride to fish is somewhat dependent on the nature of the water. The LC50 in striped bass (*Morone saxatilis*) weighing about 1.8 g ranged from 7,500 ppm to greater than 21,000 ppm depending on hardness (Dwyer et al., 1992). Twenty three-day-old striped bass had a 24-hour LC50 of 1,500 ppm and 29-day-old striped bass that had become juveniles had a 24-hour LC50 that ranged from 1,500 to 11,000 ppm depending on calcium concentration with increasing Ca leading to a higher LC50 (Grizzle and Mauldin, 1995).

Aquatic Invertebrates

Acute toxicity testing with *Daphnia magna* resulted in EC50s* from less than 7,500 ppm to 10,500 ppm depending on test water hardness (Dwyer et al., 1992). In a 21-day toxicity test, the EC50 for *D. magna* was 4,040 ppm. The 21-day NOAEC and Lowest Observed Adverse Effect Concentration (LOAEC) for *D. magna* were 500 ppm and 1,000 ppm, respectively (Kolkmeier and Brooks, 2013). For juvenile freshwater mussel (*Lampsilis fasciola*) called glochidia, no adverse effects were noted at 250 ppm, but significant mortality occurred at 1,000 ppm (Nogueira et al., 2015). This information is sufficient to classify sodium chloride as practically nontoxic to aquatic invertebrates.

When chloride ion is used as the measure of salinity, the LC50 for *Daphnia pulex* was 2,042 ppm with 100 percent mortality occurring at concentrations of 2,500 ppm or greater (Gardner and Royer, 2010). Exposure of *Ceriodaphnia dubia* to natural stream waters collected from different streams with different salinity levels resulted in adverse effects in tests with samples with chloride concentrations of 1,610 ppm or greater (Corsi et al., 2010).

* EC50 is the effective concentration at which an adverse effect is noted in 50% of the test organisms. For aquatic invertebrates it can be difficult to determine mortality, so an EC50 based on immobility is often reported.
Conclusions

Sodium chloride is naturally occurring in soils and surface waters (Bernabò et al., 2013). Sufficient information was available for all groups except reptiles and pollinators to assess toxicity. All groups demonstrated adverse effects when sodium concentrations were elevated, however, sodium chloride was classified as practically nontoxic to all groups. Therefore, the use of sodium chloride as a pesticide in cannabis cultivation is expected to have a low potential for adverse effects on any terrestrial or aquatic species.

References


Hopkins, G.R., S.S. French, and E.D. Brodie, Jr. 2013. Increased frequency and severity of developmental deformities in rough-skinned newt (Taricha granulosa) embryos exposed to road deicing salts (NaCl & MgCl2). Environmental Pollution 173: 264-269.


United States Environmental Protection Agency (USEPA). 1993. Reregistration Eligibility Decision Inorganic Halides List D, Case 4051. Office of Pesticide Programs, Special Review and


Environmental Fate & Toxicology Summary
Sodium Ferric EDTA and Iron Phosphate
(CAS # 15708-41-5, 10045-86-0)

Introduction

Sodium iron (III) ethylenediaminetetraacetate (‘sodium ferric EDTA’) and iron (III) phosphate (‘iron phosphate’) are mollusicides that primarily target snails and slugs in residential garden, nursery, greenhouse, and agricultural settings (; USEPA, 1998; 2001; 2008; 2011; DPR, 2017a). The iron in sodium ferric EDTA is responsible for its action against mollusks by chelating copper-based proteins responsible for mollusk oxygen transport and respiration (USEPA, 2011). Alternatively, iron phosphate, when consumed, interferes with the calcium metabolism in mollusk digestive systems, resulting in a cessation of eating and ultimately starvation (USEPA, 2001; Horgan et al., 2006). Iron is an essential nutrient found in soil and water and is commercially used in nutritional supplements. Both sodium ferric EDTA and iron phosphate are found commonly in food products (USEPA, 2001; 2011). Sodium ferric EDTA and iron phosphate are registered for use as solid granules (pellets) that snails and slugs consume. Sodium ferric EDTA and iron phosphate were first registered as mollusicides in 2008 and 1997, respectively. Both ingredients have extensive histories of safe use as agricultural fertilizers and sodium ferric EDTA is commonly found in cosmetic products (USEPA, 2001; 2011). Sodium ferric EDTA is sometimes used as a treatment for heavy metal poisoning by binding to toxic ions and increasing their excretion capacity (Flora and Pachauri, 2010).

Example of Formulated Products*

Corry’s® Slug & Snail Killer, Escar-go!®, Ferroxx®, Dr. T’s Nature Products® Slug & Snail Killer

*Reference to any specific product is for informational purposes only and does not constitute an endorsement or recommendation. Always read and follow label directions. If a label is unavailable, follow guidance in the product’s Safety Data Sheet (SDS) and/or in one or more of the following DPR documents: Pesticide Safety Information Series (PSIS); Compliance Assistance Booklets for Employers; and Pesticide Use Compliance Guide for Employers and Businesses.

Commonly Targeted Pest:

Slugs and snails (USEPA, 2001; 2011)

Environmental Fate

Iron is considered abundant in nature and an integral component to the diet of mammals. End-products containing the active ingredients sodium ferric EDTA or iron phosphate are not expected to partition into the atmosphere at ambient temperatures due to their commercial distribution in a solid matrix (USEPA, 2001; 2008). Sodium ferric EDTA dissociates readily in water to iron and an EDTA salt (Health Canada, 2010). Neither iron phosphate nor iron are water soluble nor do they bioaccumulate. Additional environmental fate data was not required for
registration of products containing sodium ferric EDTA or iron phosphate because both compounds are considered of low mammalian toxicity (USEPA, 2001; 2011).

**Human Risk**

**Toxicity**

Acute toxicity endpoints can be categorized from lowest toxicity to highest toxicity as shown in the table below. Throughout the discussion of human toxicity, these classifications will be referenced.

### Acute Toxicity Categories for Human

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Acute Oral LD$_{50}$</th>
<th>Acute Inhalation LC$_{50}$</th>
<th>Acute Dermal LD$_{50}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity Category I (highest toxicity)</td>
<td>≤ 50 mg/kg</td>
<td>≤ 0.2 mg/L</td>
<td>≤ 200 mg/kg</td>
</tr>
<tr>
<td>Toxicity Category II (moderately toxic)</td>
<td>&gt;50 - 500 mg/kg</td>
<td>&gt;0.2 - 2 mg/L</td>
<td>&gt;200 - 2000 mg/kg</td>
</tr>
<tr>
<td>Toxicity Category III (slightly toxic)</td>
<td>&gt;500 - 5,000 mg/kg</td>
<td>&gt;2 - 20 mg/L</td>
<td>&gt;2000 - 20,000 mg/kg</td>
</tr>
<tr>
<td>Toxicity Category IV (lowest toxicity)</td>
<td>&gt;5000 mg/kg</td>
<td>&gt; 20 mg/L</td>
<td>&gt;20,000 mg/kg</td>
</tr>
</tbody>
</table>

Reference: 40 CFR 156.62

1. LD$_{50}$ is the median lethal dose at which 50% of the test animals die from the treatment
2. LC$_{50}$ is the median lethal concentration at which 50% of the test animals die from the treatment

Iron has a safe history of use in food and is commonplace in nature. Sodium ferric EDTA is a Toxicity Category IV (slightly toxic) chemical for the acute oral exposure pathway and has an LD$_{50}$ estimated to be greater than 5,000 mg/kg in rats (USEPA, 2008). The acute oral LD$_{50}$ of iron phosphate in rats was reported to be greater than 5,000 mg/kg body weight. It is classified in Toxicity Category IV (lowest toxicity) for the acute oral route (USEPA, 1998; 2001; EFSA, 2015). Sodium ferric EDTA has an acute, inhalation LC$_{50}$ in rats of greater than 2.75 mg/L and is classified as a Toxicity Category IV (lowest toxicity) chemical (USEPA, 2011). No iron phosphate acute inhalation data was available nor required for registration in the United States (USEPA, 1998; 2011). The acute dermal LD$_{50}$ of sodium ferric EDTA was estimated to be greater than 5,000 mg/kg in rats and is classified as a Toxicity Category IV (lowest toxicity) chemical (USEPA, 2008). No acute dermal LD$_{50}$ for iron phosphate was reported in mammals, but it is expected to exceed 2,000 mg/kg body weight (EFSA, 2015). Iron phosphate is classified as a Toxicity Category IV (lowest toxicity) chemical through the acute dermal pathway (USEPA, 1998; 2011). Sodium ferric EDTA and iron phosphate are skin and eye irritants (USEPA, 1998; 2011). Neither sodium ferric EDTA nor iron phosphate are reported to be dermal sensitizers. Current scientific literature does not indicate sodium ferric EDTA or iron phosphate have any effect on the immune system. Minimal sodium ferric EDTA (less than 1 percent) absorbs as a
complex in the human body, supporting its use as a therapeutic to bind heavy metals and promote their excretion (Flora and Pachauri, 2010; USEPA, 2011). No No Observed Adverse Effect Levels (NOAELs) were available for any the pathways and durations considered for either chemical (USEPA, 1998; 2011). Iron phosphate and iron (including that found in sodium ferric EDTA) are generally recognized as safe (GRAS) by the United States Food and Drug Administration (FDA) (21 CFR 184.1375; 21 CFR 184.1301). Additional human toxicity information for sodium ferric EDTA and iron phosphate was waived for re-registration due to their low acute mammalian toxicity (USEPA, 1998; 2001; 2011). Pesticide products containing sodium ferric EDTA or iron phosphate are not expected to pose any serious or permanent adverse effects to human health through the acute oral, inhalation, or dermal pathways.

No human health incidents have been reported involving either sodium ferric EDTA or iron phosphate in California agricultural settings as the only implicated pesticide (DPR, 2017b).

Genotoxicity: Evidence as to the genotoxicity potential of sodium ferric EDTA is equivocal. Although some literature reports that EDTA results in a low degree of chromosomal damage and gene mutation in vitro, EDTA compounds were not found to be genotoxic in animal bioassays (USEPA, 2008; Health Canada, 2010). There is no evidence that iron phosphate is genotoxic (EFSA, 2015).

Mutagenicity: Current scientific literature does not indicate sodium ferric EDTA nor iron phosphate are mutagenic to humans. Additionally, neither sodium ferric EDTA nor iron phosphate were found to be mutagenic in Ames testing (Health Canada, 2010; EFSA, 2015). No further information was available regarding the mutagenic potential of sodium ferric EDTA or iron phosphate.

Neurotoxicity: Accumulation of transition metals, such as iron, are suspected to contribute to certain neurodegenerative diseases (Salvador et al., 2010). However, sodium ferric EDTA is not readily absorbed, with ninety-five percent recovery of the parent compound excreted through the feces in swine (Health Canada, 2010). Iron phosphate accumulation tends to occur in the liver and not the central nervous system (EFSA, 2015). Therefore, no adverse neurotoxic effects are anticipated when sodium ferric EDTA and iron phosphate are applied as pesticides.

Reproductive/Developmental Toxicity: Oral administration of 1,000 mg/kg-d of sodium ferric EDTA in pregnant rats has been reported to result in gross fetal malformation. However, further investigation suggest that these effects were not due to the sodium ferric EDTA itself but the binding of cations, such as a zinc, that are critical for fetal development (Health Canada, 2010). The doses required through this route of exposure at which toxicity occurred are not anticipated in occupational settings. No evidence is available suggesting iron phosphate interferes with endocrine disruption (USDA, 2010; EFSA, 2015). Iron is frequently prescribed as a supplement to pregnant women (EFSA, 2015). Therefore, neither sodium ferric EDTA nor iron phosphate are likely to cause adverse reproductive or developmental effects when applied as a pesticide. Neither chemical is listed as a developmental toxicant on the Proposition 65 list (OEHHA, 2016).
**Dermal Absorption Factor (DAF)**: The greatest potential DAF is suspected to be 0.1, indicating that iron phosphate is not readily absorbed through the skin (EFSA, 2015). No DAF was available for sodium ferric EDTA. The ferric complex of hydroxyl-EDTA, a structurally similar chemical to sodium ferric EDTA, is reported to poorly absorb through skin (Health Canada, 2010).

**Carcinogenicity**: Current scientific literature does not indicate that EDTA compounds are carcinogenic in animal bioassays (Health Canada, 2010). Iron phosphate is not reported to be carcinogenic based on long-term animal studies (EFSA, 2015). Neither chemical is listed as a suspected carcinogen by the World Health Organization nor on the Proposition 65 list (OEHHA, 2016; WHO, 2016).

**Skin, Eye, or Lung Irritation**: Sodium ferric EDTA and iron phosphate are mild dermal and eye irritants. There is no indication that these effects are permanent or prolonged (USEPA, 2001; 2011).

**Exposure**

Exposure pathways considered were ingestion, inhalation, and dermal absorption. Contact with pesticide residues may occur during pesticide mixing, loading or application or when handling treated cannabis crop. However, when used in accordance with product label, human exposure to sodium ferric EDTA as pesticides is expected to be lower than the exposure commonly incurred from the diet and cosmetic use (USEPA, 2011). Cultivators are not anticipated to intentionally ingest pesticide residues and incidental hand-to-mouth ingestion of sodium ferric EDTA and iron phosphate is expected to be *de minimus* because all product formulations are solid pellets. Aerosolized pesticide derived from the use of application is not expected because all registered product formulations of sodium ferric EDTA and iron phosphate are provided as solid pellets that are not of respirable size (USEPA, 2001; 2011). Ocular exposure to sodium ferric EDTA and iron phosphate is expected to be negligible as end-products are formulated as pellets and applied directly to the ground, thereby limiting production of dust clouds (USEPA, 2001; 2008; 2011). Dermal exposure is possible if occupational workers do not use long-sleeve shirts and pants, socks with close-toed shoes, or pesticide-resistant gloves. When used in accordance with the product label, exposure to iron phosphate is also expected to be reduced due to the low rates of application (USEPA, 1998).

**Conclusion**

Based on available toxicity data and the safe history of use in food and nutritional supplements, sodium ferric EDTA and iron phosphate are not anticipated to have adverse effects to human health for any exposure pathway. No NOAELs have been established for the pathways and durations considered. Exposure to sodium ferric EDTA and iron phosphate as molluscicides is expected to be minimal due to its physical state as a solid pellet. Due to the low mammalian toxicity, safe history of use as a pesticide and as a food ingredient, and limited exposure, sodium ferric EDTA and iron phosphate are not anticipated to result in unacceptable risk to cultivators when applied as pesticides in cannabis cultivation.
Cultivators applying pesticides should always read and follow the label, SDS and relevant DPR documents including the DPR Pesticide Safety Information Series (PSIS) (DPR, 2015), DPR Compliance Assistant Booklet for Employers (DPR, 2010a) and the DPR Pesticide Use Compliance Guide for Employers and Businesses (DPR, 2010b).

**Ecological Risk**

Acute ecotoxicity endpoints can be categorized from practically nontoxic to very highly toxic (see Ecotoxicity Classification Table below). Throughout the discussion of ecotoxicity results, these toxicity classes will be used.

### Acute Ecotoxicity Categories for Terrestrial and Aquatic Organisms.

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Avian: Acute Oral LD50 (mg/kg)</th>
<th>Aquatic Organisms: Acute LC50 (ppm or mg/L)</th>
<th>Wild Mammals: Acute Oral LD50 (mg/kg)</th>
<th>Non-Target Insects: Acute LD50 (µg/bee)</th>
</tr>
</thead>
<tbody>
<tr>
<td>very highly toxic</td>
<td>&lt;10</td>
<td>&lt;0.1</td>
<td>&lt;10</td>
<td>&lt;2</td>
</tr>
<tr>
<td>highly toxic</td>
<td>10-50</td>
<td>0.1 - 1</td>
<td>10 - 50</td>
<td>2 - 11</td>
</tr>
<tr>
<td>moderately toxic</td>
<td>51-500</td>
<td>&gt;1 - 10</td>
<td>51 - 500</td>
<td>2 - 11</td>
</tr>
<tr>
<td>slightly toxic</td>
<td>501-2000</td>
<td>&gt;10 - 100</td>
<td>501 - 2000</td>
<td></td>
</tr>
<tr>
<td>practically nontoxic</td>
<td>&gt;2000</td>
<td>&gt;100</td>
<td>&gt;2000</td>
<td>&gt;11</td>
</tr>
</tbody>
</table>

Taken from USEPA, 2012

1 LD50 is the median lethal dose at which 50% of the test animals die from the treatment

2 LC50 is the median lethal concentration at which 50% of the test animals die from the treatment

**Birds**

Sodium ferric EDTA and iron phosphate can be classified as practically nontoxic to birds (see Ecotoxicity Classification Table above). The LD50 for bobwhite quail (*Colinus virginianus*) for sodium ferric EDTA was greater than 2,038 mg/kg with a No Observed Effect Level (NOEL) for mortality of 1,235 mg/kg. Three of ten birds dosed with 2,038 mg/kg group died by day 3 after displaying impaired balance, low body carriage, and sluggishness (USEPA, 2008). Similarly, the LD50 for bobwhite quail for iron phosphate was greater than 2,000 mg/kg with an NOEL of 2,000 mg/kg (USEPA, 1998).

**Mammals (see Toxicity section under Human Risk for additional information)**

The only toxicity information for mammals is for rats with sodium ferric EDTA exhibiting an LD50 greater than 2,000 mg/kg (USEPA, 2011) and iron phosphate exhibiting an LD50 greater than 5,000 mg/kg (USEPA, 1998). Both sodium ferric EDTA and iron phosphate can be classified as practically nontoxic to mammals (see Ecotoxicity Classification Table above).

**Reptiles**

No relevant toxicity data were available for sodium ferric EDTA or iron phosphate for reptiles.
Amphibians

No relevant toxicity data were available for sodium ferric EDTA or iron phosphate for amphibians.

Pollinators

No relevant toxicity data were available for sodium ferric EDTA or iron phosphate for pollinators.

Soil-Dwelling Invertebrates

Iron phosphate demonstrated very low toxicity to earthworms. In one study, earthworms (*Eisenia fetida*) exposed in artificial soil up to 10,000 mg iron phosphate/kg soil dry weight produced an LD$_{50}$ greater than 10,000 mg/kg soil (Edwards et al., 2009). A second study exposed earthworms (*Lumbricus terrestris*) to 20 pellets of slug pesticide containing iron phosphate, but the iron phosphate content of the pellets was not stated. This application rate was 8 times higher than recommended. Mortality in iron phosphate treatments seems to have been caused by either direct poisoning (predominantly via contact with one or more pellets), or by starvation as worms that died appeared not to eat (Langan and Shaw, 2006). So while iron phosphate has a low toxicity in when mixed with soil, direct contact might be harmful. No relevant toxicity data were available for sodium ferric EDTA for earthworms or other soil-dwelling invertebrates.

Fish

Fathead minnow (*Pimephales promelas*) exposed to ferric sodium EDTA had an LC$_{50}$ greater than 100 ppm (Ewell et al., 1986). This information classifies ferric sodium EDTA as practically nontoxic to fish (see Ecotoxicity Classification Table above). No relevant toxicity data were available for iron phosphate for fish.

Aquatic Invertebrates

Ferric sodium EDTA can be classified as slightly to practically nontoxic to aquatic invertebrates (see Ecotoxicity Classification Table above). The LC$_{50}$ of ferric sodium EDTA for the water flea (*Daphnia magna*) was 32 ppm. For the sideswimmer (*Gammarus fasciatus*), the LC$_{50}$ was 100 ppm. For the flatworm (*Dugesia tigrina*), snail (*Helisoma trivolvis*), segmented worm (*Lumbriculus variegatus*), and pillbug (*Asellus intermedius*), the LC$_{50}$s were greater than 100 ppm (Ewell et al., 1986). No relevant toxicity data were available for iron phosphate.

Conclusions

No long-term oral toxicity studies were identified for any group. A single acute oral toxicity estimate was available for birds and mammals for each chemical. The lack of toxicity data for amphibians, reptiles, and pollinators precludes a conclusive determination of risk potential for these groups. However, the low potential for risk in birds and mammals, suggests there is not likely a high potential for adverse effects in other terrestrial vertebrate groups. The use of sodium
ferric EDTA and iron phosphate as molluscicides suggests minimal exposure to pollinators, thus preventing adverse effects simply due to lack of exposure. Sodium ferric EDTA and iron phosphate are only slightly or practically nontoxic to aquatic species, so there is a low potential for adverse effects to aquatic species.

References


Environmental Fate & Toxicology Summary
Soybean Oil, Castor Oil, Thyme Oil, and Geraniol
(CAS # 8001-79-4, 8001-22-7, 8007-46-3, 106-24-1)

Introduction

Flower, vegetable, and plant oils are a mixture of the natural chemicals derived from the leaves, flowers, and fruits/vegetables of plants. In this ingredient summary, plant oils specifically include soybean oil, castor oil, thyme oil, and geraniol. These four oils were combined in this summary due to their lack of No Observed Adverse Effect Levels (NOAELs) or median lethal dose (LD50) values, their status as exempt from registration requirements under Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) section 25 (b) and 3 CCR 6147, and they were submitted together for registration review through the United States Environmental Protection Agency (USEPA) (USEPA, 2012a; 2015). These four oils act as repellants, insecticides, and miticides when applied to indoor and outdoor ornamentals and food crops as a liquid spray, gel, or as a solid pellet (USEPA, 2001; 2010). Many of these oils are used commonly as food additives, flavorings, and personal care products (USEPA, 2010). They typically act as a pesticide through direct contact, coating the outer portions of the target pest and clogging their spiracles, suffocating the insect (Chalker-Scott, 2015). In formulated products, soybean oil, castor oil, thyme oil, and geraniol are often blended with other active ingredients, including but not limited to other plant, flower, vegetable, or essential oils (CDA, 2017). Plant oils were first registered for use as pesticides in 1948.

Example of Formulated Products*

Dr. Earth Final Stop® ProActive Vegetable Garden Insect Killer; Drexel Citru-Soy™

*Reference to any specific product is for informational purposes only and does not constitute an endorsement or recommendation. Always read and follow label directions. If a label is unavailable, follow guidance in the product's Safety Data Sheet (SDS) and/or in one or more of the following DPR documents: Pesticide Safety Information Series (PSIS); Compliance Assistance Booklets for Employers; and Pesticide Use Compliance Guide for Employers and Businesses.

Commonly Targeted Pest:

Aphids, mites, whiteflies, caterpillars, thrips, leaf miners, gnats, moles (USEPA, 1993a,b; USEPA, 2010)

Environmental Fate

Plant oils act through a mode of action that requires direct contact with pests, indicating their activity as a pesticide is short-lived. The chemical and physical properties of both essential oils and vegetable oils vary. Both essential oils and vegetable oils tend to be lipophilic and degrade rapidly in the environment (Aluyor et al., 2009; Tripathi et al., 2009; Maia and Moore, 2011). Essential oils tend to be volatile while conversely, vegetable oils have low volatility (Aluyor et al., 2009; Tripathi et al., 2009).
Human Risk

Toxicity

Plant oils are designated as a reduced-risk pesticide in California and have no known adverse human health effects (Maia and Moore, 2011; USEPA, 1993a,b; 2010; 2012a). These ingredients have been used as pesticides for decades and have a history of safe use with few human incidents directly attributed to the plant oil as the active ingredient (USEPA, 2010; 2012a). Of the oils considered in this summary, only geraniol was involved in any human health incident. However, the injuries were determined to result from product misuse and failure to follow label directions and the effects were likely due to other ingredients within the mixture (USEPA, 2012a). Of the four oils evaluated, none were reported to cause dermal irritation and only soybean oil is known to cause slight eye irritation (USEPA, 2010). No toxicological endpoints were available for any exposure route or duration considered. Most plant and flower oils are ‘generally recognized as safe’ (GRAS) by the Food and Drug Administration (FDA) when used as food additives (USEPA, 2010; 2012a). Due to their safe history of use in food, personal care products, and body sprays, as well as their nontoxic mode of action and low mammalian toxicity, soybean oil, castor oil, thyme oil, and geraniol are not expected to result in adverse effects to human health (USEPA, 2010; 2012a; 2015; Chalker-Scott 2015; DPR, 2016).

Genotoxicity: No information was available regarding the genotoxic potential of soybean oil, castor oil, thyme oil, or geraniol.

Mutagenicity: No information was available regarding the mutagenic potential of soybean oil, castor oil, thyme oil, or geraniol.

Neurotoxicity: Vegetable oils act as a suffocating agent through direct, physical contact with insects and mites (Chalker-Scott, 2015). Therefore, neither soybean oil nor castor oil are thought to act through a neurotoxic mode of action. In contrast, many essential oils are suspected to have insecticidal properties through a neurotoxic mechanism of action. Monoterpenes, such as the primary constitute of thyme oil (thymol), are reported to act on the octopaminergic system of insects (Anonymous, 2006; Tripathi et al., 2009). However, vertebrates do not have octopaminergic receptors (Tripathi et al., 2009), making adverse neurotoxic effects unlikely when thyme oil is used as a pesticide. Laboratory tests report that geraniol does not interfere with the octopaminergic nervous system (Tripathi et al., 2009). Geraniol has been reported to have neuroprotective effects against certain toxicants, such as acrylamide (Prasad and Muralidhara, 2014).

Reproductive/Developmental Toxicity: The 1996 Food Quality Protection Act (FQPA) requires the USEPA screen pesticide chemicals for their potential to cause endocrine disruption through a two-tiered approach. The USEPA program that addresses the screening of pesticides for endocrine disruption is known as the Endocrine Disruption Screening Program (EDSP) (USEPA, 2016). The EDSP did not consider plant oils as priority pesticides to be evaluated for estrogenic or androgenic properties. None of the plant oils covered in this summary are identified as developmental toxicants on the Proposition 65 list (OEHH, 2016). No additional information was available regarding the reproductive or developmental toxicity of castor oil, soybean oil, thyme oil, or geraniol.
**Dermal Absorption Factor (DAF):** No DAF was available for soybean oil, castor oil, thyme oil, and geraniol.

**Carcinogenicity:** Castor oil, soybean oil, thyme oil, nor geraniol are identified as carcinogenic by either the World Health Organization nor Proposition 65 (OEHHA, 2016; WHO, 2016). No additional information was available regarding the carcinogenic potential of plant oils considered in this summary.

**Skin, Eye, or Lung Irritation:** Castor oil, thyme oil, and geraniol are not known to be skin or eye irritants. However, soybean oil has the potential to cause slight eye irritation (USEPA, 2010).

### Exposure

Exposure pathways considered were ingestion, inhalation, and dermal absorption. Contact with pesticide residues may occur during pesticide mixing, loading or application or when handling treated cannabis crop. Although cultivators are not anticipated to intentionally ingest pesticide residues, incidental hand-to-mouth ingestion of pesticide residues may occur if hands are not properly washed and proper care is not taken to avoid unintentional transfer of pesticide residues on hands to mouth. Aerosolized pesticide from the use of application equipment, such as backpack sprayers, may be present and as a result, there is a potential for inhalation exposure during application. Respiratory protection is not always required for application of soybean oil, castor oil, thyme oil, or geraniol as pesticides (DPR, 1999). Essential oils, such as thyme oil and geraniol, are expected to partition into the air from foliage and soil due to their volatility (Tripathi et al., 2009), resulting in post-application inhalation exposure. However, vegetable oils (such as soybean oil and castor oil) are not likely to volatilize off application sites (Aluyor et al., 2009). Products containing thyme oil require long-sleeved clothing, pesticide-resistant gloves, close-toed shoes with socks, and safety eyewear in end-products when present at concentrations exceeding 8.5% (DPR, 1999). Although not explicitly required, it is suggested occupational workers use protective eyewear when applying soybean oil due to its status as an eye irritant (USEPA, 2010). Vegetable and essential oils degrade quickly in the environmental and are not expected to persist (Maia and Moore, 2011; USEPA, 2012a). Many products with soybean oil, castor oil, thyme oil, and geraniol as the active ingredient(s) contain low concentrations of these oils and have a low use volume. Additionally, over half the pesticide products containing these oils as active ingredients are blended with other active ingredients that are relatively more toxic than the plant oil (USEPA, 2010; 2012a). Therefore, the personal protection equipment (PPE) requirements for application of end-products may extend beyond that required for the plant oil.

### Conclusion

Based on available toxicity data, soybean oil, castor oil, thyme oil, and geraniol are not anticipated to have adverse effects to human health for any exposure pathway. No acute, subchronic, or chronic toxicological endpoints have been established for any exposure pathway considered. Due to their low toxicity through all routes of exposure, PPE requirements in end-products containing these oils as active ingredients is typically minimal. Due to the low mammalian toxicity and history of safe use, castor oil, soybean oil, thyme oil, and geraniol are not anticipated to result in unacceptable risk to cultivators when applied as a pesticide in cannabis cultivation.
Cultivators applying pesticides should always read and follow the label, SDS and relevant DPR documents including the DPR Pesticide Safety Information Series (PSIS) (DPR, 2015), DPR Compliance Assistant Booklet for Employers (DPR, 2010a) and the DPR Pesticide Use Compliance Guide for Employers and Businesses (DPR, 2010b).

Ecological Risk

Acute ecotoxicity endpoints can be categorized from practically nontoxic to very highly toxic (see Ecotoxicity Classification Table below). Throughout the discussion of ecotoxicity results, these toxicity classes will be used. Ecotoxicity data from many plant oils, particularly for aquatic species is lacking or at least very limited. As a note of interest, ricin, a toxin present in castor beans is water soluble and therefore not extracted with castor oil (Worbs et al., 2011). Ecotoxicity data for thymol, a major component of thyme oil (Teissedre and Waterhouse 2000 in Anonymous, 2006), is included in the discussion of thyme oil, as appropriate.

### Ecotoxicity Classification Table

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Avian: Acute Oral LD₅₀ (mg/kg)</th>
<th>Aquatic Organisms: Acute LC₅₀ (ppm or mg/L)</th>
<th>Wild Mammals: Acute Oral LD₅₀ (mg/kg)</th>
<th>Non-Target Insects: Acute LD₅₀ (µg/bee)</th>
</tr>
</thead>
<tbody>
<tr>
<td>very highly toxic</td>
<td>&lt;10</td>
<td>&lt;0.1</td>
<td>&lt;10</td>
<td></td>
</tr>
<tr>
<td>highly toxic</td>
<td>10-50</td>
<td>0.1 - 1</td>
<td>10 - 50</td>
<td>&lt;2</td>
</tr>
<tr>
<td>moderately toxic</td>
<td>51-500</td>
<td>&gt;1 - 10</td>
<td>51 - 500</td>
<td>2 - 11</td>
</tr>
<tr>
<td>slightly toxic</td>
<td>501-2000</td>
<td>&gt;10 - 100</td>
<td>501 - 2000</td>
<td></td>
</tr>
<tr>
<td>practically nontoxic</td>
<td>&gt;2000</td>
<td>&gt;100</td>
<td>&gt;2000</td>
<td>&gt;11</td>
</tr>
</tbody>
</table>

Taken from USEPA, 2012b

1 LD₅₀ is the median lethal dose at which 50% of the test animals die from the treatment
2 LC₅₀ is the median lethal concentration at which 50% of the test animals die from the treatment

**Birds**

No relevant bird toxicity data were available for castor oil, geraniol, or thyme oil.

**Soybean Oil**

The available information regarding exposure to soybean oil did not reveal any ecologically relevant adverse effects. Chickens fed diets containing 20 percent soybean oil for 112 days experienced no apparent adverse effects (Corner et al. 1985). Feeding male chicks diets for 22 days with 2 or 20 percent soybean oil did not affect body weight gain (Farrow et al., 1982). Feeding day-old chickens, white Peking ducks, or turkeys diets contain 25 percent soybean oil also did not reduce body weights, but did slightly increase fatty deposits on hearts (Ratanasethkul et al., 1976). However, feeding male chicks diet containing 20% soybean oil for 16 weeks did result in reduced body weight compared to controls (Hulan, et al. 1982). The exposures at which any adverse effects occurred are quite high, and the effects of questionable ecological relevance. Therefore, no adverse effects are anticipated from the use of soybean oil as a pesticide in cannabis cultivation.
Mammals (see Toxicity section under Human Risk for additional information)

No relevant mammal toxicity data were available for geraniol.

Castor Oil
No acute toxicity studies with castor oil were available to categorize castor as depicted in the Ecotoxicity Classification Table above. However, the evidence available suggests that castor oil presents very limited toxicity for mammals. Rats dosed with 0.5 mL castor oil/rat developed diarrhea, but rats fed 10 percent castor oil in their diet for 5 weeks had no adverse reaction (Masri et al., 1962). Rats dosed with 2 mL castor oil/rat also developed diarrhea (Capasso et al., 1994). Similarly, ponies dosed with 2.5 mL castor oil/kg of body weight developed diarrhea, along with some intestinal inflammation (Johnson et al., 1993). These impacts were short-term and not ecologically relevant. Rats or mice fed diets with up to 10 percent castor oil for 13 weeks suffered no mortality. Some changes in organ weights were noted, but these were not considered indicative of toxic insults. Exposure of up to 10 percent in the diet for either rats or mice was not considered harmful (NTP, 1992).

Soybean Oil
No acute toxicity studies with soybean oil were available to categorize soybean oil as depicted in the Ecotoxicity Classification Table above. However, the evidence available suggests that soybean oil presents very limited toxicity for mammals. Rats fed diets containing 16 percent soybean oil for 107 to 110 weeks demonstrated no adverse effects. Rats fed 8 percent soybean oil for 10 weeks for males and 4 weeks for females pre-breeding and then through lactation showed no effects on breeding (Duthie et al., 1988). Rats fed diets containing 20 percent soybean oil initiated when 28 days old exhibited few adverse effects at 238 days of age. These rats had an elevated rate of bile duct proliferation (Kaunitz and Johnson, 1973).

Thyme Oil
Thyme oil can be categorized as slightly toxic to mammals. The oral LD_{50} of thymol (in squalene) in mice was 1,200 mg/kg in males and 1,050 mg/kg body weight in females. Acute toxic signs were sluggishness and uncoordinated gait along with some small intestinal congestion (Hasegawa et al., 1989 in Anonymous, 2006). Adult rats dosed with thymol, a major component of thyme oil, had an LD_{50} of 980 mg/kg and guinea pigs had an LD_{50} of 880 mg/kg (Jenner et al., 1964). Male mice dosed with thymol in cottonseed oil had an LD_{50} of 1,800 mg/kg, a No Observed Effect Level (NOEL) for mortality of 940 mg/kg with a Lowest Observed Effect Level (LOEL) for mortality of 1,400 mg/kg (McOmie et al., 1949). Long-term exposure does not pose a greater potential for adverse effects since weanling rats fed 1,000 and 10,000 ppm thymol in diet for 19 weeks experienced no adverse effect (Hagan et al., 1967).

Reptiles
No relevant reptile toxicity data were available for castor oil, geraniol, or thyme oil.
Soybean Oil
No acute toxicity studies with soybean oil were available to categorize soybean oil as depicted in the Ecotoxicity Classification Table above. However, the evidence available suggests that soybean oil presents very limited toxicity for reptiles. Iberian green lizards (*Lacerta schreiberi*) were fed 0.2 mL soybean oil daily for 28 days and exhibited no adverse effects (Kopena et al., 2014). Similarly, soft-shelled turtles (*Pelodiscus sinensis*) were provided soybean oil as 8 percent in diet for 10 weeks. All turtles were apparently healthy with no mortality after a 10-week feeding period (Lin and Huang, 2007).

Amphibians
No relevant amphibian toxicity data were available for castor oil, geraniol, soybean oil, or thyme oil.

Pollinators
No relevant pollinator toxicity data were available for castor oil, geraniol, or soybean oil.

Thyme Oil
Thymol can be classified as practically nontoxic to insects (see Ecotoxicity Classification Table above). Honey bee (*Apis mellifera*) queens dosed with two 0.001 mL of thymol on the thorax resulted in an LD₅₀ of 3,240 mg/kg, and workers dosed with a single 0.001 mL application on the thorax resulted in in LD₅₀ of 524 mg/kg (Dahlgren et al., 2012). Adult bees dosed topically had an LD₅₀ of 210.3 µg thymol/bee, and larvae dosed with 0.005 mL of solution had an LD₅₀ of 150.7 µg thymol/larvae (Gashout and Guzmán-Novoa, 2009).

Honey bee larvae fed thymol in their food produced a 48-hr LD₅₀ of 44 µg/larva after 6 days of receiving treated diet with a Lowest Observed Effect Concentration (LOEC) for body mass of larvae of 500 mg/kg in food and No Observed Effect Concentration (NOEC) of 100 mg/kg diet (Charpentier et al., 2014).

Thyme oil containing 65.3 percent thymol and 5.4 percent carvacrol produced a 72-hr LC₅₀ of 8.05 µL/petri dish following exposure to dried residues on a petri dish (Damiani et al., 2009). Adult worker bees exposed to fumes from thyme oil in closed jars produced an LC₅₀ of 1.7 mg thymol/mL volume of jar container (Ellis and Baxendale, 1997).

Soil-Dwelling Invertebrates
No relevant toxicity data were available for castor oil, geraniol, or thyme oil for soil-dwelling invertebrates.

Soybean Oil
In earthworms (*Eisenia andrei*), soybean oil at 7.5 or 10 mL/100 g of soil for 7 days produced no mortality nor caused any weight loss (Tamada et al., 2012).
Fish
No relevant toxicity data were available for castor oil for fish.

Geraniol
Geraniol is moderately toxic to fish (see Ecotoxicity Classification Table above) based on an LC$_{50}$ of 3.7 ppm in rainbow trout (*Oncorhynchus mykiss*), an LC$_{50}$ of 2.6 ppm in brown trout (*Salmo trutta*), and an LC$_{50}$ of 3.2 ppm to 5 ppm in fathead minnow (*Pimephales promelas*) (Mayer and Ellersieck, 1986).

Soybean Oil
The only fish toxicity data for soybean oil is for the rice field eel (*Monopterus albus*). Eel were fed diets with 70,000 mg soybean oil/kg diet for 10 weeks and experienced no mortality. Rice field eels that received soybean oil experienced no adverse effect on gained weight, specific growth rate, relative liver weight, and fecundity and hatching. However, survival of hatched larvae was reduced (Zhou et al., 2011).

Thyme Oil
Thyme oil or its component thymol can both be classified as moderately to slightly toxic to fish (see Ecotoxicity Classification Table above). Rainbow trout were exposed to up to 100 ppm thyme oil (with an emulsifier) resulting in an LC$_{50}$ of 16.1 ppm. Pacific Coho salmon (*Oncorhynchus kisutch*) were exposed to up to 100 ppm thyme oil (with an emulsifier) resulting in an LC$_{50}$ of 20.5 ppm (Stroh et al., 1998). Fathead minnow had an LC$_{50}$ of 3.2 ppm (Ewell et al., 1986).

Steelhead (*Oncorhynchus mykiss*) exposed to 5 ppm thymol lost equilibrium between 1 and 5 hours after initiating dosing and at least some died between 16 and 18 hours after initiating dosing. Coho salmon exposed to 5 ppm thymol lost equilibrium between 0 and 1 hours after initiating dosing and at least some died between 16 and 18 hours after initiating dosing. Chinook salmon (*Oncorhynchus tsawytscha*) exposed to 1 ppm thymol lost equilibrium between 8 and 12 hours after initiating dosing with no mortality indicated. Northern squawfish (*Ptychochellus oregonensis*) exposed to 5 ppm lost equilibrium between 0 and 5 hours after initiating dosing and at least some died between 3 and 18 hours after initiating dosing. At 10 ppm squawfish showed no loss of equilibrium (MacPhee and Ruelle, 1969).

Aquatic Invertebrates
No relevant toxicity data were available for castor oil, geraniol, or soybean oil for aquatic invertebrates.

Thyme Oil
Thymol can be classified as moderately to slightly toxic to aquatic invertebrates (see Ecotoxicity Classification Table above). The LC$_{50}$ of thymol for the water flea (*Daphnia magna*) was 3.2 ppm (Ewell et al., 1986) to 5.94 ppm (Seo et al., 2012). For the flatworm (*Dugesia tigrina*), the LC$_{50}$ was 5.9 ppm. For the sideswimmer (*Gammarus fasciatus*), the LC$_{50}$ was 3.2 ppm. For the snail (*Helisoma trivolvis*), the LC$_{50}$ was 32 ppm. For the segmented worm (*Lumbriculus*...
variegatus), the LC$_{50}$ was 3.2 ppm. For the pillbug (*Asellus intermedius*) the LC$_{50}$ was 17 ppm (Ewell et al., 1986).

Conclusions

**Castor Oil**
The ecotoxicology data for most taxonomic groups for castor oil are limited or nonexistent. The complete lack of data for all groups except for mammals precludes a conclusive determination of risk potential for these groups. Exposure to castor oil in diet, as opposed to oral doses, at concentrations up to 10 percent in the diet were deemed not harmful suggesting any dietary exposure following an application of castor oil as pesticide is not likely to be harmful. The low toxicity in mammals suggests other terrestrial vertebrates are also unlikely to experience adverse effects following applications of castor oil, but the available information is insufficient to extrapolate to invertebrates or aquatic species. Based on castor oil’s non-toxic mode of action and the low potential for exposure, USEPA (2010) has concluded castor oil poses little risk to any ecological receptor.

**Geraniol**
The ecotoxicology data for most taxonomic groups for geraniol are limited or nonexistent. The complete lack of data for all groups except for fish precludes a conclusive determination of risk potential for these groups. Geraniol is moderately toxic to fish suggesting it is unlikely that sufficient geraniol could reach surface waters following an application of geraniol as a pesticide to cause adverse effects for fish. The moderate toxicity in fish is not necessarily an appropriate indicator of toxicity in other groups. Based on geraniol’s non-toxic mode of action and the low potential for exposure, USEPA (2010) has concluded geraniol poses little risk to any ecological receptor.

**Soybean Oil**
The ecotoxicology data for many taxonomic groups for soybean oil are limited or nonexistent. The complete lack of data for amphibians, pollinators, and aquatic invertebrates precludes a conclusive determination of risk potential for these groups. Dietary concentrations of up to 20 percent for extended period was not harmful to poultry or rats and mice suggesting soybean oil is unlikely to cause adverse effects in other birds or mammal species as well. Lizards and turtles were not harmed when given soybean oil directly or in their diets suggesting other reptile species are likely not to experience adverse effects. The lack of adverse effects on earthworms suggests other soil-dwelling invertebrates should not be adversely affected when exposed to soybean oil. Soybean oil incorporated into fish diet was not harmful. The broad range of species that experienced no or very little adverse effects following exposure to high concentrations/doses of soybean oil provides strong evidence that soybean oil will not cause adverse effects in any ecological receptors when applied as a pesticide.

**Thyme Oil**
The ecotoxicology data for many taxonomic groups for thyme oil are limited or nonexistent. The complete lack of data for birds, reptiles, amphibians, and soil-dwelling invertebrates precludes a conclusive determination of risk potential for these groups. Thyme oil is classified as slightly toxic to mammals and is therefore unlikely to cause adverse effects when applied as a pesticide.
Thymol, a major component of thyme oil is used as a pesticide for control of mites in bee hives, and is classified as practically nontoxic to bees. Therefore, thyme oil is not likely to be harmful to other pollinators following applications of thyme oil as a pesticide. Thyme oil or thymol are classified as moderately to slightly toxic to fish and aquatic invertebrates. As long as efforts are made during applications of thyme oil to keep it out or water, there is low potential for adverse effects to aquatic species.

References


Environmental Fate & Toxicology Summary
Sulfur
(CAS # 7704-34-9)

Introduction

Elemental sulfur is an abundant, naturally occurring component of the environment and an integral part of the Sulfur Cycle. It is also one of the oldest recorded pesticides and has seen use as a fungicide for more than 2,000 years in agriculture (USEPA, 2014). In the United States, sulfur has been registered for use since the 1920s as an insecticide, acaricide, and fungicide in a wide variety of settings, including indoor and outdoor agricultural sites, residential areas, and on livestock and pets. Additionally, it is used as a fertilizer and to amend alkaline soils (USEPA, 1991a; 2008). Sulfur is applied as a powder, dust, or liquid to control grub and adult pests that destroy plant stems, leaves, and seedlings (USEPA, 1991a; DPR, 2017a). In general, sulfur acts by disrupting electron transport along cytochromes in pests and as a direct-contact fungicide by inhibiting germination of spores (USEPA, 2008; Health Canada, 2012). As of 2008, there were over one-hundred and four end-product pesticide that listed sulfur as an active ingredient in the United States (USEPA, 2008).

Example of Formulated Products*

Micro Sulf®, Wilbur-Ellis® Dusting Sulfur, Bonide® Sulfur Plant Fungicide

*Reference to any specific product is for informational purposes only and does not constitute an endorsement or recommendation. Always read and follow label directions. If a label is unavailable, follow guidance in the product’s Safety Data Sheet (SDS) and/or in one or more of the following DPR documents: Pesticide Safety Information Series (PSIS); Compliance Assistance Booklets for Employers; and Pesticide Use Compliance Guide for Employers and Businesses.

Commonly Targeted Pest:

Powdery mildew, mites, thrips, flea beetles (DPR, 2017a; Nufarm Americas, Inc., 2008)

Environmental Fate

Sulfur is a ubiquitous, natural component of the environment that makes up 15% of the inner core of the Earth and represents 0.052% the Earth’s crust. It is an essential nutrient for plants and animals. Elemental sulfur is unlikely to be taken up by plant roots, has low water solubility, and a low vapor pressure of $3.95 \times 10^{-6}$ @ 30.4°C (USEPA, 2008; 2014). Elemental sulfur as a pesticide is rapidly integrated into the Sulfur Cycle, indicating it is not persistent in the applied form (USEPA, 1991b; 2008). However, sulfur may oxidize in aerobic conditions which may acidify soil and water. The potential for sulfur to oxidize is dependent on the microorganism population, soil characteristics, and the particle size of the sulfur (USEPA, 2008).

Human Risk

Toxicity
Acute toxicity endpoints can be categorized from lowest toxicity to highest toxicity as shown in the table below. Throughout the discussion of human toxicity, these classifications will be referenced.

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Acute Oral LD&lt;sub&gt;50&lt;/sub&gt;&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Acute Inhalation LC&lt;sub&gt;50&lt;/sub&gt;&lt;sup&gt;2&lt;/sup&gt;</th>
<th>Acute Dermal LD&lt;sub&gt;50&lt;/sub&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (highest toxicity)</td>
<td>≤ 50 mg/kg</td>
<td>≤ 0.2 mg/L</td>
<td>≤ 200 mg/kg</td>
</tr>
<tr>
<td>II (moderately toxic)</td>
<td>&gt;50 - 500 mg/kg</td>
<td>&gt;0.2 - 2 mg/L</td>
<td>&gt;200 - 2000 mg/kg</td>
</tr>
<tr>
<td>III (slightly toxic)</td>
<td>&gt;500 - 5,000 mg/kg</td>
<td>&gt;2 - 20 mg/L</td>
<td>&gt;2000 - 20,000 mg/kg</td>
</tr>
<tr>
<td>IV (lowest toxicity)</td>
<td>&gt;5000 mg/kg</td>
<td>&gt; 20 mg/L</td>
<td>&gt;20,000 mg/kg</td>
</tr>
</tbody>
</table>

Reference: 40 CFR 156.62
1. LD<sub>50</sub> is the median lethal dose at which 50% of the test animals die from the treatment
2. LC<sub>50</sub> is the median lethal concentration at which 50% of the test animals die from the treatment

Elemental sulfur has a long history as a part of the human diet, nutrient cycling, and as a pesticide (USEPA, 2008; 2014). Acute, oral studies have estimated the LD<sub>50</sub> to be greater than 5,000 mg/kg in rats through this pathway with no mortalities reported at the highest dose, classifying sulfur as a Toxicity Category IV chemical (lowest toxicity) (USEPA, 1991b; 2008). The LC<sub>50</sub> through the acute inhalation pathway has been estimated to be greater than 0.047 mg/L for 4 hours in hamsters and mice and greater than 9.23 mg/L for 4 hours in rats (USEPA, 1991b; HSDB, 2014). Therefore, it is classified as a Toxicity Category III (slightly toxic) ingredient through this route of exposure (USEPA, 1991b; HSDB, 2014). Studies report a dermal LD<sub>50</sub> greater than 2,000 mg/kg body weight in rabbits, and therefore, it is classified in Toxicity Category III (slightly toxic) through this route of exposure (USEPA, 1991b; HSDB, 2014). Sulfur is a skin, eye, and respiratory irritant but not a skin sensitizer (USEPA, 1991b; 2008; 2014). No acute, subchronic, or chronic No Observed Adverse Effect Levels (NOAELs) have been established for the oral, inhalation, or dermal routes of exposure. No chronic toxicity data was required for registration of sulfur as an active ingredient in pesticide products due to the expected inherent exposure to sulfur that occurs in everyday life (USEPA, 2008). Pesticide products containing sulfur as the active ingredient are not expected to result in any serious or permanent adverse human health effects through the acute, subchronic, or chronic pathways.

Between 2009 and 2014, there were 18 human health incidents in California agricultural settings in which sulfur was the only active ingredient involved. Most cases presented with mild symptoms and one required hospitalization (DPR, 2017b).
Genotoxicity: Studies investigating the genotoxicity potential of sulfur *in vitro* and *in vivo* report negative results tests (EFSA, 2008). Humans are exposed chronically to sulfur on a daily basis and it is an essential macronutrient (USEPA, 2014). No further information was available regarding the genotoxic potential of sulfur.

Mutagenicity: Current scientific literature indicates that sulfur is non-mutagenic to microorganisms (USEPA, 2014). No further information was available regarding the mutagenic potential of sulfur.

Neurotoxicity: The mechanism of sulfur to humans is not known to be neurotoxic and it does not belong to a class of chemicals with a neurotoxic mechanism of action (EFSA, 2008; USEPA, 2008). Therefore, no adverse neurotoxic effects are anticipated when sulfur is used as a pesticide.

Reproductive/Developmental Toxicity: Sulfur is not known to have teratogenic properties or interfere with the reproductive system of mammals (USEPA, 1991a; EFSA, 2008). The 1996 Food Quality Protection Act (FQPA) requires the United States Environmental Protection Agency (USEPA) screen pesticide chemicals for their potential to cause endocrine disruption. The USEPA program that addresses the screening of pesticides for endocrine disruption is known as the Endocrine Disruption Screening Program (EDSP) (USEPA, 2016). Sulfur was not considered a priority compound to evaluate and was dismissed due to the unlikelihood it would produce an effect analogous to naturally occurring hormones (USEPA, 2014). Because of its natural background level in the environment, history of safe use, and low known mammalian toxicity, sulfur is not anticipated to result in reproductive or development toxicity. Sulfur is not listed as a developmental toxicant on the Proposition 65 list (OEHHA, 2016).

Dermal Absorption Factor (DAF): No DAF was available for elemental sulfur.

Carcinogenicity: Sulfur is not known to be mutagenic, genotoxic, or oncogenic (USEPA, 1991a; EFSA, 2008). Sulfur is not listed as a suspected carcinogen by the World Health Organization nor is listed as a carcinogen on Proposition 65 (OEHHA, 2016; WHO, 2016).

Skin, Eye, or Lung Irritation: Sulfur is reported to be irritating to skin and eyes when PPE and REIs are not properly followed in accordance with label language. Some workers have been reported to experience respiratory irritation from lung exposure to sulfur (USEPA, 2008; 2014).

**Exposure**

Exposure pathways considered were ingestion, inhalation, and dermal absorption. Human contact with sulfur applied as a pesticide is expected. Contact with pesticide residues may occur during pesticide mixing, loading or application or when handling treated cannabis crop. Although cultivators are not anticipated to intentionally ingest pesticide residues, incidental hand-to-mouth ingestion of pesticide residues may occur if hands are not properly washed and proper care is not taken to avoid unintentional transfer of pesticide residues on hands to mouth. In response to a high number of human health incidents, the USEPA revised label requirements regarding PPE and REIs in 2008 (USEPA, 2008; USEPA, 2014). National Institute of Occupational Safety and Health (NIOSH)-approved respirators should be used to reduce
inhalation exposure when inadequate ventilation is available or sulfur vapors/mists exceed the California Occupational Safety and Health Agency (Cal/OSHA) Permissible Exposure Limit (PEL). Post-application inhalation exposure due to the volatilization of dried sulfur from foliar and soil is considered *de minimis* because of its low vapor pressure. Coveralls, chemical resistant gloves, and safety goggles are required during mixing, loading, and application processes to protect against dermal and eye irritation (USEPA, 2008; 2014). The USEPA recommends a 24-hour REI for foliar applications of sulfur (USEPA, 2008).

**Conclusions**

Because sulfur exhibits low mammalian toxicity, is ubiquitous in nature, and is an essential nutrient required of both plants and animals, it is not anticipated to pose any serious or permanent toxic effects to human health through the acute, subchronic, or chronic oral, dermal, and inhalation pathways when applied as a pesticide. No acute, subchronic, or chronic NOAELs have been established for the pathways considered. Humans are naturally exposed to background levels of sulfur on a daily basis. Additionally, exposure to sulfur, when applied as a pesticide, is significantly reduced due to the PPE and REI restrictions. Due to the low mammalian toxicity, and limited exposure, sulfur is not anticipated to result in unacceptable risk to cultivators when applied as a pesticide in cannabis cultivation.

Cultivators applying pesticides should always read and follow the label, SDS and relevant DPR documents including the DPR Pesticide Safety Information Series (PSIS) (DPR, 2015), DPR Compliance Assistant Booklet for Employers (DPR, 2010a) and the DPR Pesticide Use Compliance Guide for Employers and Businesses (DPR, 2010b).

**Ecological Risk**

Acute ecotoxicity endpoints can be categorized from practically nontoxic to very highly toxic (see Ecotoxicity Classification Table below). Throughout the discussion of ecotoxicity results, these toxicity classes will be used.

<table>
<thead>
<tr>
<th><strong>Acute Ecotoxicity Categories for Terrestrial and Aquatic Organisms.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Toxicity Category</strong></td>
</tr>
<tr>
<td>very highly toxic</td>
</tr>
<tr>
<td>highly toxic</td>
</tr>
<tr>
<td>moderately toxic</td>
</tr>
<tr>
<td>slightly toxic</td>
</tr>
<tr>
<td>practically nontoxic</td>
</tr>
</tbody>
</table>

Taken from USEPA, 2012

1. LD₅₀ is the median lethal dose at which 50% of the test animals die from the treatment
2. LC₅₀ is the median lethal concentration at which 50% of the test animals die from the treatment
Birds

Sulfur has low toxicity for birds with a dietary LC50 for bobwhite quail (*Colinus virginianus*) of greater than 5,620 ppm (USEPA, 1982a). In a field study, European starlings (*Sturnus vulgaris*) readily used nest boxes with sulfur that was being evaluated as an avian repellant. No apparent detrimental effects were observed on egg-laying or hatching (White and Blackwell, 2003).

Mammals (see Toxicity section under Human Risk for additional information)

Sulfur is practically nontoxic to mammals (see Ecotoxicity Classification Table above). In an acute oral toxicity test the LD50 was greater than 5,000 mg/kg (USEPA, 1991b). In a longer term study, rats orally dosed for 90 days at up to 1,000 mg/kg-d exhibited no mortality or clinical or histopathological findings (ECHA, 2006).

Reptiles

No relevant toxicity data were available for sulfur for reptiles.

Amphibians

No relevant toxicity data were available for sulfur for amphibians.

Pollinators

The USEPA (1991b) reported sulfur had low toxicity for honeybees, but no details were provided.

Soil-Dwelling Invertebrates

No relevant toxicity data were available for sulfur for soil-dwelling invertebrates.

Fish

Sulfur can be considered practically nontoxic to fish (see Ecotoxicity Classification Table above). Acute toxicity tests for bluegill (*Lepomis macrochirus*) and rainbow trout (*Oncorhynchus mykiss*) reported LC50s of either greater than 100 ppm or greater than 180 ppm (USEPA, 1973a,b; 1982b,c). For the mosquitofish (*Gambusia affinis*), the 96-hr median tolerance level (TLm) (equivalent to an LC50) was greater than 10,000 ppm (Wallen et al., 1957).

Aquatic Invertebrates

For the freshwater species of water flea (*Daphnia magna*) using Sulfur Ortho Flotox Garden Sulfur containing 90 percent sulfur, the EC50* was 3,850 ppm with a No Observed Effect Level (NOEL) of 2,980 ppm (USEPA, 1982d). For the estuarine species of mysid (*Americamysis*

* EC50 is the effective concentration at which an adverse effect is noted in 50% of the test organisms. For aquatic invertebrates it can be difficult to determine mortality, so an EC50 based on immobility is often reported.


**bahia**) using the same product, the LC$_{50}$ was greater than 180 ppm (USEPA, 1982e). In a test with a wettable powder formulation with 90% sulfur, the LC$_{50}$ for mysid was 730 ppm (USEPA, 1986). A test with the amphipod (*Gammarus fossarum*) only tested concentrations up to 4,860 ppm, finding no lethal or sublethal effects (Zubrod et al., 2014). This information can be used to classify sulfur as practically nontoxic to aquatic invertebrates (see Ecotoxicity Classification Table above).

**Conclusions**

Few long-term oral toxicity studies were identified for any group. A small number of oral toxicity tests documented low toxicity or a classification of practically nontoxic for birds and mammals. The lack of toxicity data for amphibians, reptiles, and soil-dwelling invertebrates precludes a conclusive determination of risk potential for these groups. However, the low potential for risk in birds and mammals, suggests there is not likely a high potential for adverse effects in other terrestrial vertebrate groups. Sulfur has low toxicity for honeybees, suggesting there is a low potential for adverse effects to pollinators from the use of sulfur as a pesticide in cannabis cultivation. Sulfur is practically nontoxic to aquatic species indicating a low potential for adverse effects following the use of sulfur as a pesticide in cannabis cultivation.

**References**


Environmental Fate & Toxicology Summary

*Trichoderma harzianum*
(CAS # 67892-31-3, 67892-34-6)

**Introduction**

*Trichoderma harzianum*, herein referred to as *T. harzianum*, is a naturally-occurring species of soil fungus that acts as an antagonist to other fungi pathogenic to plants (USEPA, 2007). It competes for root and foliar surface space to prevent seed rot and disease caused by *Pythium, Rhizoctonia, Cylindrocladium, Fusarium*, and *Thielaviopsis* (USEPA, 2008). *T. harzianum* was first registered as a biopesticide in 1990 and is currently registered for application on food and non-food crops in greenhouses and nurseries (USEPA, 2001; 2007; 2008). Although there are multiple strains of *T. harzianum* that may be used as a pesticide, for this ingredient summary, only *T. harzianum* Rifai KRL-AG2 (otherwise known as strain T-22) is registered for use on food crops and will be considered. *T. harzianum* T-39 was previously exempt from tolerance requirements when applied to food crops. However, it is no longer registered for use as a pesticide on edible vegetation and its exemption from tolerance on food crops will be revoked (USEPA, 2008). Therefore, it may not be applied to cannabis and is not considered in this summary.

**Example of Formulated Products***

T-22™ WP Biological Fungicide; Rootshield® WP Biological Fungicide

*Reference to any specific product is for informational purposes only and does not constitute an endorsement or recommendation. Always read and follow label directions. If a label is unavailable, follow guidance in the product’s Safety Data Sheet (SDS) and/or in one or more of the following DPR documents: Pesticide Safety Information Series (PSIS); Compliance Assistance Booklets for Employers; and Pesticide Use Compliance Guide for Employers and Businesses.

**Commonly Targeted Pest:**

*Pythium, Rhizoctonia, Cylindrocladium, Fusarium*, and *Thielaviopsis* (USEPA, 2008)

**Environmental Fate**

*T. harzianum* is a ubiquitous fungus that is found naturally in soil. *T. harzianum* does not proliferate in water habitats and is not expected to survive at mammalian body temperatures (USEPA, 2001; 2008).

**Human Risk**

**Toxicity**

*T. harzianum* is commonly found throughout the environment, has a safe history of use as a pesticide, and is not known to be infective nor pathogenic to humans (USEPA, 2001; 2007; 2008). Although no specific LD50 was available through the acute, oral route, *T. harzianum* is
categorized in Toxicity Category IV (lowest toxicity) through this pathway (USEPA, 2008). T. harzianum is categorized as Toxicity Category IV (lowest toxicity) for the acute inhalation pathway based on studies that investigated up to $10^8$ colony forming units (cfu)/0.04 mL/rat intratracheally. No adverse effects, infectivity, or pathogenicity were observed at any dose tested (USEPA, 2007). T. harzianum is classified in Toxicity Category III (slightly toxic) for the acute dermal pathway based on toxicity data from a seventeen year occupational study (USEPA, 2007; 2008). T. harzianum is slightly irritating to the skin, eyes, and lungs (USEPA, 2007; 2008). No other toxicological endpoints or No Observed Adverse Effect Levels (NOAELs) have been established for the pathways and durations considered. Based on the low mammalian toxicity, safe history of use, and ubiquity in the environment, adverse human health effects are not anticipated when T. harzianum is applied as a pesticide on cannabis.

As of 2008, the USEPA had not received any reports of adverse effects to human health due to exposure to T. harzianum applied as a pesticide (USEPA, 2008).

**Genotoxicity:** No information was available regarding the genotoxic potential of T. harzianum.

**Mutagenicity:** No information was available regarding the mutagenic potential of T. harzianum.

**Neurotoxicity:** T. harzianum is not known to have a neurotoxic mechanism of action (USEPA, 2007).

**Reproductive/Developmental Toxicity:** The 1996 Food Quality Protection Act (FQPA) requires the United States Environmental Protection Agency (USEPA) screen pesticide ingredients for their potential to cause endocrine disruption through a two-tiered approach. The USEPA program that addresses the screening of pesticides for endocrine disruption is known as the Endocrine Disruption Screening Program (EDSP) (USEPA, 2016). Although no specific tests were conducted to determine its potential as an endocrine disruptor, the EDSP concluded it is not a priority ingredient to evaluate for estrogenic or endocrine effects (USEPA, 2008). Current scientific literature does not indicate T. harzianum has developmental or reproductive toxicity. No strain of T. harzianum is listed as a known developmental toxicant on the Proposition 65 list (OEHHA, 2016).

**Dermal Absorption Factor (DAF):** No DAF was available for T. harzianum.

**Carcinogenicity:** Current scientific literature indicates that T. harzianum is neither pathogenic nor has significant toxicity to mammals (USEPA, 2007; 2008). None of the T. harzianum strains are listed as a suspected carcinogen by the World Health Organization nor are any listed as a carcinogen on Proposition 65 (OEHHA, 2016; WHO, 2016). No further information was available regarding the carcinogenic potential of T. harzianum.

**Skin, Eye, or Lung Irritation:** T. harzianum is slightly irritating to skin, eyes, and lungs (USEPA, 2007).

**Exposure**
Exposure pathways considered were ingestion, inhalation, and dermal absorption. Contact with pesticide residues may occur during pesticide mixing, loading or application or when handling treated cannabis crop. Although cultivators are not anticipated to intentionally ingest pesticide residues, incidental hand-to-mouth ingestion of pesticide residues may occur if hands are not properly washed and proper care is not taken to avoid unintentional transfer of pesticide residues on hands to mouth. Aerosolized pesticide from the use of application equipment, such as backpack sprayers, may be present and as a result, there is a potential for inhalation exposure during application. However, inhalation exposure to aerosolized pesticide is reduced when the required PPE (i.e., NIOSH-approved respirators) is utilized in accordance with label requirements (USEPA, 2001). The potential for dermal contact to T. harzianum in occupational settings is expected to be de minimis due to the required use of long sleeve shirts and pants, shoes, and socks, and safety glasses in compliance with label requirements (USEPA, 2001; 2008). Some end-use products containing T. harzianum as the active ingredient require a Restricted-entry Interval (REI) following application (USEPA, 2008). Therefore, the potential for human contact with T. harzianum as a pesticide is minimal when used in accordance with label requirements.

Conclusion

Based on available toxicity data and natural ubiquity in the environment, T. harzianum is not anticipated to result in adverse health effects to cultivators for any exposure pathway when used as a pesticide. No NOAELs were available for the pathways and durations considered. There is little expected human contact with T. harzianum when applied as a pesticide under the conditions appropriate personal protection equipment and REIs are implemented in compliance with label requirements. Due to the low mammalian toxicity, history of safe use, and limited exposure, T. harzianum is not anticipated to result in unacceptable risk to cultivators when applied as a pesticide in cannabis cultivation.

Cultivators applying pesticides should always read and follow the label, SDS and relevant DPR documents including the DPR Pesticide Safety Information Series (PSIS) (DPR, 2015), DPR Compliance Assistant Booklet for Employers (DPR, 2010a) and the DPR Pesticide Use Compliance Guide for Employers and Businesses (DPR, 2010b).

Ecological Risk

Acute ecotoxicity endpoints can be categorized from practically nontoxic to very highly toxic (see Ecotoxicity Classification Table below). Throughout the discussion of ecotoxicity results, these toxicity classes will be used. However, microbial pesticides are not always evaluated using the standard ecotoxicity classification categories.
Acute Ecotoxicity Categories for Terrestrial and Aquatic Organisms.

<table>
<thead>
<tr>
<th>Toxicity Category</th>
<th>Avian: Acute Oral LD₅₀¹ (mg/kg)</th>
<th>Aquatic Organisms: Acute LC₅₀² (ppm or mg/L)</th>
<th>Wild Mammals: Acute Oral LD₅₀ (mg/kg)</th>
<th>Non-Target Insects: Acute LD₅₀ (µg/bee)</th>
</tr>
</thead>
<tbody>
<tr>
<td>very highly toxic</td>
<td>&lt;10</td>
<td>&lt;0.1</td>
<td>&lt;10</td>
<td></td>
</tr>
<tr>
<td>highly toxic</td>
<td>10-50</td>
<td>0.1 - 1</td>
<td>10 - 50</td>
<td>&lt;2</td>
</tr>
<tr>
<td>moderately toxic</td>
<td>51-500</td>
<td>&gt;1 - 10</td>
<td>51 - 500</td>
<td>2 - 11</td>
</tr>
<tr>
<td>slightly toxic</td>
<td>501-2000</td>
<td>&gt;10 - 100</td>
<td>501 - 2000</td>
<td></td>
</tr>
<tr>
<td>practically nontoxic</td>
<td>&gt;2000</td>
<td>&gt;100</td>
<td>&gt;2000</td>
<td>&gt;11</td>
</tr>
</tbody>
</table>

Taken from USEPA, 2012

¹ LD₅₀ is the median lethal dose at which 50% of the test animals die from the treatment
² LC₅₀ is the median lethal concentration at which 50% of the test animals die from the treatment

Birds

In an acute oral toxicity test, the LD₅₀ for bobwhite quail (Colinus virginianus) was greater than 11,110 mg/kg body weight (USEPA, 2008). This study indicates T. harzianum is practically nontoxic to birds (see Ecotoxicity Classification Table above).

Mammals (see Toxicity section under Human Risk for additional information)

In an acute oral toxicity test in rats, T. harzianum T-22 was considered not infective or pathogenic (USEPA, 2008). In a longer term study, rats were dosed daily for 13 weeks with an enzyme produced via fermentation of T. harzianum. The test substance used in this study was a liquid enzyme preparation of Glucanex. Rats received doses up to 10 mL/kg/day. Rats exhibited no treatment related mortality, clinical signs, or histopathology findings (Elvig and Pedersen, 2003).

Reptiles

No relevant toxicity data were available for T. harzianum for reptiles.

Amphibians

No relevant toxicity data were available for T. harzianum for amphibians.

Pollinators

Bumblebees (Bombus terrestris) received a topical dose of 50 µL of a solution containing 6 × 10⁸ cfu T. harzianum T22/L (as Trianum-P®) or 3 × 10⁶ cfu/bee. Bumblebees were also provided sugar water containing the same concentration or pollen sprayed to saturation with the same concentration of T. harzianum T22. No lethal effects were observed after 72 hours, or after 11 weeks when topically treated or exposed orally. T. harzianum T22 was classified as nontoxic. There were no impact to drone production (Mommaerts et al., 2009).
Soil-Dwelling Invertebrates

No relevant toxicity data were available for *T. harzianum* for soil-dwelling invertebrates.

Fish

Zebrafish (*Danio rerio*) embryo were exposed to diluted single-cell protein (SCP) at up to 1,000 ppm and adult zebrafish were fed SCP along with flake feed for 10 weeks. SCP consisted of a mixture of *Rhizopus stolonifer*, *Cladosporium cladosporiodes*, *Cununghonella elegans*, *Penicillium steckii*, *T. harzianum*, and *Gliocladium roseum* with *T. harzianum* being the most abundant in the mixture. No effects noted on the development of fertilized eggs or the subsequent survival of larvae. There also was no significant effect on number of eggs laid by fish exposed to SCP in the diet. SCP did not cause any toxic effect on zebrafish adults and their offspring (Sisman et al., 2012).

Aquatic Invertebrates

No relevant toxicity data were available for *T. harzianum* for aquatic invertebrates.

Conclusions

A small number of oral toxicity tests classified *T. harzianum* as practically nontoxic for birds and mammals. The lack of toxicity data for amphibians, reptiles, soil-dwelling invertebrates, and aquatic invertebrates precludes a conclusive determination of risk potential for these groups. However, the low potential for risk in birds and mammals, suggests there is not likely a high potential for adverse effects in other terrestrial vertebrate groups. *T. harzianum* has low toxicity for bumblebees, suggesting there is a low potential for adverse effects to pollinators from the use of *T. harzianum* as a pesticide in cannabis cultivation. *T. harzianum* showed no adverse effects in a nonstandard toxicity test for fish. The limited information suggests there would be a low potential for adverse effects to aquatic species following the use of *T. harzianum* as a pesticide in cannabis cultivation.

References


Attachment B: Permissible and Recommended Exposure Limits
## Attachment B: Permissible and Recommended Exposure Limits

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Cal/OSHA PEL (a)</th>
<th>NIOSH REL (b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Azadirachtin</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Bacillus amyloliquefaciens</em> strain D474</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Bacillus subtilis</em>, QST 713</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Bacillus thuringiensis</em> (c)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Beauveria bassiana</em> (d)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Burkholderia</em> spp. strain A396</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Capsaicin</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cinnamon Oil</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Citric Acid</td>
<td>Total Dust: 10 mg/m³ (e) Respirable Fraction: 5 mg/m³ (e)</td>
<td>-</td>
</tr>
<tr>
<td>Clove Oil</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Corn Oil</td>
<td>Total Dust: 10 mg/m³ (f) Respirable Fraction: 5 mg/m³ (f)</td>
<td>Total Dust: 10 mg/m³ (f) Respirable Fraction: 5 mg/m³ (f)</td>
</tr>
<tr>
<td>Cottonseed Oil</td>
<td>Total Dust: 10 mg/m³ (f) Respirable Fraction: 5 mg/m³ (f)</td>
<td>Total Dust: 10 mg/m³ (f) Respirable Fraction: 5 mg/m³ (f)</td>
</tr>
<tr>
<td>Garlic and garlic oil</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Gliocladium virens</em></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Horticultural Oils (Petroleum Oils)</td>
<td>5 mg/m³ (excluding vapor) (g)</td>
<td>5 mg/m³ (g) (STEL) 10 mg/m³ (g)</td>
</tr>
<tr>
<td>Insecticidal Soap (Potassium Salts of Fatty Acids)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Isaria fumosorosea</em></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Neem Oils (h)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Peppermint Oil</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Potassium Bicarbonate, Sodium Bicarbonate</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Potassium Silicate</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>potassium sorbate</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Predatory Nematodes</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><em>Reynoutria sachalinensis</em> Extract</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Putrescent whole egg solids</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Rosemary Oil</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sesame Oil</td>
<td>Total Dust: 10 mg/m³ (f) Respirable Fraction: 5 mg/m³ (f)</td>
<td>Total Dust: 10 mg/m³ (f) Respirable Fraction: 5 mg/m³ (f)</td>
</tr>
<tr>
<td>Sodium Chloride</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sodium Ferric EDTA, Iron Phosphate</td>
<td>1 mg/m³ (i)</td>
<td>1 mg/m³ (i)</td>
</tr>
</tbody>
</table>
### Permissible and Recommended Exposure Limits (Cont.)

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Cal/OSHA PEL (a)</th>
<th>NIOSH REL (b)</th>
</tr>
</thead>
</table>
| Soybean Oil, Castor Oil, Thyme Oil, and Geraniol | Total Dust: 10 mg/m³ (f)  
Respirable Fraction: 5 mg/m³ (f) | Total Dust: 10 mg/m³ (f)  
Respirable Fraction: 5 mg/m³ (f) |
| Sulfur | Total Dust: 10 mg/m³ (e)  
Respirable Fraction: 5 mg/m³ (e) | - |
| Trichoderma harzianum (d) | - | - |

**General Notes:**
If listed as (-), no exposure limits were identified for the ingredient.
Limits for 'Total Dust' include any nuisance dust or particulate, whether mineral, inorganic, or organic.
Limits for 'Respirable Fraction' includes those particulates that can penetrate deeper into the lung due to their smaller size.
A short term exposure limit (STEL) is defined as 15-minute TWA exposure which is not to be exceeded at any time during a workday, even if the 8-hour TWA is below the PEL.

**Abbreviations:**
Cal/OSHA - California Occupational Safety and Health Administration  
NIOSH - National Institute for Occupational Safety and Health  
PEL - Permissible Exposure Limit  
PNOR - Particulates Not Otherwise Regulated  
REL - Recommended Exposure Limit  
ST - Short Term Exposure Limit  
TWA - Time Weighted Average

**Specific Notes:**
(a) The PELs are 8-hour TWAs, unless otherwise noted.  
(b) RELs are 10-hour TWA, unless otherwise.  
(c) Includes subspecies israelensis and kurstaki.  
(d) Includes only strains that are both registered for use on food crops intended for human consumption and residue tolerance exempt (40 CFR). See ingredient summary for further details.  
(e) Limit value is for PNOR, also known as 'nuisance dust'.  
(f) Limit value is for vegetable oil mists.  
(g) Limit value is for mineral oil.  
(h) Includes cold pressed neem oil and the clarified, hydrophobic extract of neem oil.  
(i) Limit value is for iron salts (soluble, as Fe).
Appendix G

California Tribal Correspondence
August 24, 2016  
Contact Name  
Contact Tribe  
Address  
City, CA 9XXXX  

Subject: California Department of Food and Agriculture Medical Cannabis Cultivation Licensing Program Environmental Impact Report

Dear Chairperson XXXX:

The California Department of Food and Agriculture (CDFA) is preparing to file a Notice of Preparation (NOP) of a Programmatic Environmental Impact Report (PEIR) for the Medical Cannabis Cultivation Program (MCCP), as required by California Code of Regulations title 14, section 15000 et seq. This PEIR is being prepared in response to the Medical Cannabis Regulation and Safety Act (Act) that was signed by Governor Brown in 2015. The Act outlines a new structure for regulation and enforcement of medical cannabis production and use in California. The Act addresses issues such as cultivation, manufacture of cannabis products, quality control and inspection, distribution, dispensaries, and prescriptions for patients. The Act also establishes new licensing procedures for various aspects of the production process.

CDFA is tasked with licensing medical cannabis cultivation, as well as establishing a “track and trace” system, which involves development of a unique identifier for each plant, a reporting system, fees, and a method to document the transport path of plants from cultivation to sale of the medicinal cannabis product. The cultivation licensing and track and trace system are collectively considered the MCCP or Proposed Program. CDFA is preparing a PEIR to provide the public, responsible agencies, trustee agencies, and permitting agencies with information about the potential environmental effects associated with the adoption and implementation of these statewide regulations. The PEIR will be prepared by CDFA in accordance with the provisions of the California Environmental Quality Act (CEQA) and the State CEQA Guidelines.

The overall purpose of CDFA’s MCCP is to establish a regulatory licensing program that would ensure that medical cannabis cultivation operations would be performed in a manner that protects the environment, cannabis cultivation workers, and the general public from the individual and cumulative effects of these operations, and fully complies with all applicable laws. An additional purpose of MCCP is to establish a track and trace program to ensure the movement of medical cannabis items are tracked throughout the production chain.

The regulations will be developed to achieve the following objectives:

- Establish minimum requirements for indoor, outdoor, and mixed light medical cannabis cultivation operations that must be achieved by cultivators in order to obtain a cultivation license from CDFA;
- Establish a limit on the quantity of licenses issued for the Type 3, 3A, and 3B cultivation categories;
- Ensure that individual and cumulative effects of water diversion and discharge associated with cultivation do not affect the instream flows needed for fish spawning, migration, and rearing, and the flows needed to maintain natural flow variability;
- Ensure that cultivation will not negatively impact springs, riparian wetlands, and aquatic habitats;
• Require that cannabis cultivation by licensees is conducted in accordance with state and local laws related to land conversion, grading, electricity usage, water usage, water quality, woodland and riparian habitat protection, agricultural discharges, and similar matters;

• Establish procedures for the issuance and revocation of unique identifiers for activities associated with a cannabis cultivation license;

• Prescribe standards for the reporting of information as necessary related to unique identifiers;

• Establish a scale of application, licensing, and renewal fees, based upon the cost of administering and enforcing the Program; and

• Develop a cultivation checklist tool that can be used by CDFA, other agencies, and local governments to evaluate environmental impacts of cannabis cultivation license programs.

Pursuant to Public Resources Code Section 21080.3.1 et seq., the CDFA is notifying you of our intent to consider the Proposed Program, including its potential for impacting tribal cultural resources. The regulations require that you contact us within 30 days from your receipt of this letter to request a consultation regarding any potential impacts of this project on tribal cultural resources. If you wish to request the consultation, or if you have any questions, please contact:

Amber Morris, Branch Chief
Medical Cannabis Cultivation Program
California Department of Food and Agriculture, MCCP
1220 N Street, Suite 400
Sacramento, CA 95814
Phone: (916) 263-0801
Email: amber.morris@cdfa.ca.gov

If you do not contact us within 30 days following receipt of this letter, the CDFA will proceed with processing the above referenced application with the assumption that your tribe does not wish to consult about the potential effects of the MCCP on tribal cultural resources. If consultation is requested, please provide the name and contact information of the designated lead contact person as part of your request. The CDFA will contact the designated person to set a meeting date to begin consultation within 30 days of our receipt of your request.

More detailed information about this project is available on the internet at https://www.cdfa.ca.gov/is/mccp/. Thank you for giving this matter your prompt attention.

Sincerely,

Amber Morris, Chief
Medical Cannabis Cultivation Program
Division of Inspection Services
May 2, 2017

Contact Name
Contact Tribe
Address
City, CA 9XXXX

Subject: California Department of Food and Agriculture Medical and Non-Medical Cannabis Cultivation Licensing Program Environmental Impact Report

Dear Chairperson XXXX:

The California Department of Food and Agriculture (CDFA) filed a Notice of Preparation (NOP) of a Programmatic Environmental Impact Report (PEIR) for the Medical Cannabis Cultivation Program (MCCP), as required by California Code of Regulations title 14, section 15000 et seq. in September 2016. The Program was established in response to the Medical Cannabis Regulation and Safety Act that was signed by Governor Brown in 2015. Pursuant to Public Resources Code Section 21080.3.1 et seq., CDFA notified you, by mail in August 2016, about the agency’s intent to consider the Proposed Program and prepare a PEIR for the MCCP.

On November 8, 2016, California voters passed Proposition 64, the Adult Use of Marijuana Act (AUMA), which legalizes the use and possession of non-medical cannabis products within California by adults ages 21 years and older. Similar to MCCP, AUMA regulates the cultivation, processing, manufacture of cannabis products, quality control, testing, inspection, and retail sale of non-medical cannabis. As with medical cannabis, CDFA is tasked with developing regulations for the cultivation of non-medical cannabis and implementing a track and trace system for monitoring the movement of these products. The elements of the MCCP and AUMA have combined into what is now collectively referred to as the CalCannabis Licensing Program.

CDFA is preparing a revised NOP of the PEIR to address the addition of the AUMA to the MCCP activities and the expanded licensing program, which will cover issuance of licenses for both medical and non-medical cannabis cultivation. CDFA is also sending this supplemental notice to your tribe, pursuant to Public Resources Code Section 21080.3.1 et seq., to make you aware of this change to the licensing program.

The new name for the program will be the CalCannabis Cultivation Licensing Program, and the regulations for the Program will be developed to achieve the following objectives:

- Establish minimum requirements for indoor, outdoor, and mixed light commercial cannabis cultivation operations that must be achieved by cultivators in order to obtain a cultivation license from CDFA;
- For medical cannabis cultivation, establish a limit on the quantity of licenses issued for the Type 3, 3A, and 3B cultivation categories;
- For non-medical cannabis cultivation, establish rules limiting excessive concentrations of licenses in any specific city and/or county;
- Ensure that individual and cumulative effects of water diversion and discharge associated with cultivation do not affect the instream flows needed for fish spawning, migration, and rearing, and the flows needed to maintain natural flow variability;
- Ensure that cultivation will not negatively impact springs, riparian wetlands, and aquatic habitats;
• Require that cannabis cultivation by licensees is conducted in accordance with state and local laws related to land conversion, grading, electricity usage, water usage, water quality, woodland and riparian habitat protection, agricultural discharges, and similar matters;
• Establish procedures for the issuance and revocation of unique identifiers for activities associated with a cannabis cultivation license;
• Prescribe standards for the reporting of information as necessary related to unique identifiers;
• Establish a scale of application, licensing, and renewal fees, based upon the cost of administering and enforcing the Program; and
• Develop a cultivation checklist tool that can be used by CDFA, other agencies, and local governments to evaluate environmental impacts of cannabis cultivation license programs.

Public Resources Code Section 21080.3.1 et seq. requires that you contact us within 30 days from your receipt of this letter to request a consultation regarding any potential impacts of the Program on tribal cultural resources. If you wish to request the consultation, or if you have any questions, please contact:

Amber Morris, Branch Chief
CalCannabis Cultivation Licensing
California Department of Food and Agriculture
1220 N Street, Suite 400
Sacramento, CA 95814
Phone: (916) 263-0801
Email: amber.morris@cdfa.ca.gov

If you do not contact us within 30 days following receipt of this letter, the CDFA will proceed with the above referenced PEIR with the assumption that your tribe does not wish to consult about the potential effects of the CalCannabis Cultivation Licensing Program on tribal cultural resources. If consultation is requested, please provide the name and contact information of the designated lead contact person as part of your request. The CDFA will contact the designated person to set a meeting date to begin consultation within 30 days of our receipt of your request.

More detailed information about this project is available on the internet at https://www.cdfa.ca.gov/is/mccp/. Thank you for giving this matter your prompt attention.

Sincerely,

Amber Morris, Chief
CalCannabis Cultivation Licensing
Division of Inspection Services
April 28, 2017
Contact Name
Contact Tribe
Address
City, CA 9XXXX

Subject: California Department of Food and Agriculture Medical and Non-Medical Cannabis Cultivation Licensing Program Environmental Impact Report

**Dear Chairperson XXXX:**

The California Department of Food and Agriculture (CDFA) filed a Notice of Preparation (NOP) of a Programmatic Environmental Impact Report (PEIR) for the Medical Cannabis Cultivation Program (MCCP), as required by California Code of Regulations title 14, section 15000 et seq. in September 2016. The Program was established in response to the Medical Cannabis Regulation and Safety Act that was signed by Governor Brown in 2015. Pursuant to Public Resources Code Section 21080.3.1 *et seq.*, CDFA notified you, by mail in August, 2016, about the agency's intent to consider the MCCP and prepare a PEIR for the MCCP. You responded to the letter with a request for consultation on the MCCP under Public Resources Code Section 21080.3.1(b)(2).

On November 8, 2016, California voters passed Proposition 64, the Adult Use of Marijuana Act (AUMA), which legalizes the use and possession of non-medical cannabis products within California by adults ages 21 years and older. Similar to MCCP, AUMA regulates the cultivation, processing, manufacture of cannabis products, quality control, testing, inspection, and retail sale of non-medical cannabis. As with medical cannabis, CDFA is tasked with developing regulations for the cultivation of non-medical cannabis and implementing a track and trace system for monitoring the movement of these products. The elements of the MCCP and AUMA have combined into what is now collectively referred to as the CalCannabis Licensing Program.

CDFA is preparing a revised NOP of the PEIR to address the addition of the AUMA to the MCCP activities and the expanded licensing program, which will cover issuance of licenses for both medical and non-medical cannabis cultivation. CDFA is also sending this supplemental notice to your tribe, pursuant to Public Resources Code Section 21080.3.1 *et seq.*, to make you aware of this change to the licensing program.

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- Prescribe standards for the reporting of information as necessary related to unique identifiers;

- Establish a scale of application, licensing, and renewal fees, based upon the cost of administering and enforcing the Program; and

- Develop a cultivation checklist tool that can be used by CDFA, other agencies, and local governments to evaluate environmental impacts of cannabis cultivation license programs.

CDFA will consider your earlier request for consultation about the MCCP applicable to the larger CalCannabis Cultivation Licensing Program, unless we hear differently from you within 30 days following receipt of this letter. If you have any questions, please contact:

Amber Morris, Branch Chief
CalCannabis Cultivation Licensing
California Department of Food and Agriculture
1220 N Street, Suite 400
Sacramento, CA 95814
Phone: (916) 263-0801
Email: amber.morris@cdfa.ca.gov

More detailed information about this project is available on the internet at https://www.cdfa.ca.gov/is/mccp/. I look forward to working with you on the CalCannabis Cultivation Licensing Program.

Sincerely,

Amber Morris, Chief
CalCannabis Cultivation Licensing
Division of Inspection Services
<table>
<thead>
<tr>
<th>Tribe</th>
<th>Name</th>
<th>Chairperson</th>
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<td>Amah Mutsun Tribal Band</td>
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<td>789 Canada Road</td>
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<td>Julie Lynn Tumamait-Stennsle, Chairperson</td>
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<td>365 North Poli Ave</td>
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<td>Barona Group of the Capitan Grande</td>
<td>Clifford LaChappa, Chairperson</td>
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<td>1095 Barona Road</td>
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<td>Erika Cooper, Tribal Historic Preservation</td>
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<td>266 Keisner Road</td>
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<td>Tina Braitewaite, Chairperson</td>
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<td>25669 Highway 6 PMB I</td>
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<td>Elizabeth D. Kipp, Chairperson</td>
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<td>Buena Vista Rancheria</td>
<td>Rhonda Morningstar Pope, Chairperson</td>
<td>1418 20th Street, Suite 200</td>
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<td>Cedarville Rancheria of N. Paiute Indians</td>
<td>Melissa Davis, Chairperson</td>
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<td>Garth Sundberg, Chairperson</td>
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<td>Melissa Powell, Chairperson</td>
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<td>Chumash Council of Bakersfield</td>
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<td>555 S. Cloverdale Blvd., Suite A</td>
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<td>Gino Altamirano, Chairperson</td>
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<td>Santa Barbara, CA 93140</td>
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<td>Colusa Indian Community Council</td>
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<td>Fresno, CA 93703</td>
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<td>Kim Cole, Tribal Administrator</td>
<td>PO Box 757</td>
<td>Lower Lake, CA 95457</td>
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<td>2332 Howland Hill Road</td>
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<td>4054 Willows Road</td>
<td>Alpine, CA 91901</td>
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<td>Michael Garcia, Vice Chairperson</td>
<td>4054 Willows Road</td>
<td>Alpine, CA 91901</td>
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<td>Federated Indians of Graton Rancheria</td>
<td>Greg Sarris, Chairperson</td>
<td>6400 Redwood Drive, Ste 300</td>
<td>Rohnert Park, CA 94928</td>
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<td>Rudy Ortega, President</td>
<td>1019 2nd Street</td>
<td>San Fernando, CA 91340</td>
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<td>Fort Independence Indian Community of Paiutes</td>
<td>Norman Wilder, Chairman</td>
<td>P.O. Box 67</td>
<td>Independence, CA 93526</td>
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<tr>
<td>Fort Mojave Indian Tribe</td>
<td>Timothy Williams, Chairperson</td>
<td>500 Merriman Ave</td>
<td>Needles, CA 92363</td>
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<td>Gabrieleno Band of Mission Indians Kizh Nation</td>
<td>Andrew Salas, Chairperson</td>
<td>P.O. Box 393</td>
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<td>Gabrieleno/Tongva San Gabriel Band of Mission Indians</td>
<td>Anthony Morales, Chairperson</td>
<td>P.O. Box 693</td>
<td>San Gabriel, CA 91778</td>
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<td>Chairperson Name</td>
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<td>Gabrielino/Tongva Nation</td>
<td>Sandonne Goad</td>
<td>Chairperson</td>
<td>106 1/2 Judge John Aiso St., #231</td>
<td>Los Angeles, CA 90012</td>
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<tr>
<td>Gabrielino Tongva Indians of California Tribal Council</td>
<td>Robert F. Dorame, Chairperson</td>
<td>Chairperson</td>
<td>P.O. Box 490</td>
<td>Bellflower, CA 90707</td>
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<tr>
<td>Gabrielino-Tongva Tribe</td>
<td>Linda Candelaria, Co-Chairperson</td>
<td>Chairperson</td>
<td>1999 Avenue of the Stars, Suite 1100</td>
<td>Los Angeles, CA 90067</td>
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<tr>
<td>Greenville Rancheria of Maidu Indians</td>
<td>Kyle Self, Chairperson</td>
<td>Chairperson</td>
<td>P.O. Box 279</td>
<td>Greenville, CA 95947</td>
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<td>Grindstone Rancheria of Wintun-Wailaki</td>
<td>Ronald Kirk, Chairperson</td>
<td>Chairperson</td>
<td>P.O. Box 63</td>
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<td>Guidiville Band of Pomo Indians</td>
<td>Merlene Sanchez, Chairperson</td>
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<td>P.O. Box 339</td>
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<td>Habematolel Pomo of Upper Lake</td>
<td>Sherry Treppa, Chairperson</td>
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<td>P.O. Box 516</td>
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<td>Honey Lake Maidu</td>
<td>Paul Garcia, Chairperson</td>
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<td>7029 Polvadero Drive</td>
<td>San Jose, CA 95119</td>
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<td>Honey Lake Maidu</td>
<td>Ron Morales, Chairperson</td>
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<td>1101 Arnold Street</td>
<td>Susanville, CA 96130</td>
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<td>Hoopa Valley Tribe</td>
<td>Ryan P. Jackson, Chairperson</td>
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<td>P.O. Box 1348</td>
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<tr>
<td>Hopland Band of Pomo Indians</td>
<td>Josep San Diego, Chairperson</td>
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<td>3000 Shanel Road</td>
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<td>lipay Nation of Santa Ysabel</td>
<td>Virgil Perez, Chairperson</td>
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<td>P.O. Box 130</td>
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<td>Rebecca Osuna, Chairperson</td>
<td>Chairperson</td>
<td>2005 S. Escondido Blvd.</td>
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<tr>
<td>Indian Canyon Mutsun Band of Costanoan</td>
<td>Ann Marie Sayers, Chairperson</td>
<td>Chairperson</td>
<td>P.O. Box 28</td>
<td>Hollister, CA 95024</td>
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<td>Ione Band of Miwok Indians</td>
<td>Crystal Martinez-Alire, Chairperson</td>
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<td>P.O. Box 699</td>
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<td>Adam Dalton, Chairperson</td>
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<td>P.O. Box 1090</td>
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<tr>
<td>Jamul Indian Village</td>
<td>Erica Pinto, Chairperson</td>
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<td>P.O. Box 612</td>
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<td>Sonia Johnston, Chairperson</td>
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<td>P.O. Box 25628</td>
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<td>Matias Belardes, Chairperson</td>
<td>Chairperson</td>
<td>32161 Avenida Los Amigos</td>
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<td>Teresa Romero, Chairperson</td>
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<td>31411-A La Matanza Street</td>
<td>San Juan Capistrano, CA 92675</td>
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<td>Karuk Tribe</td>
<td>Russell Atteberry, Chairperson</td>
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<td>P.O. Box 1016</td>
<td>Happy Camp, CA 96039</td>
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<td>Alex Watts-Tobin, Tribal Historic Preservation Officer</td>
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<td>Kashia Band of Pomo Indians of the Stewarts Point Rancheria</td>
<td>Loren Smith, Tribal Historic Preservation Officer</td>
<td>1420 Guerneville Road, Ste 1</td>
<td>Santa Rosa, CA 95403</td>
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<td>Kashia Band of Pomo Indians of the Stewarts Point Rancheria</td>
<td>Reno Keoni Franklin, Chairperson</td>
<td>1420 Guerneville Road, Ste 1</td>
<td>Santa Rosa, CA 95403</td>
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<td>Kern Valley Indian Council</td>
<td>Robert Robinson, Chairperson</td>
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<td>Kings River Choinumni Farm Tribe</td>
<td>Stan Alec</td>
<td>3515 East Fedora Avenue</td>
<td>Fresno, CA 93726</td>
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<td>Kitanemuk &amp; Yowlumne Tejon Indians</td>
<td>Delia Dominguez, Chairperson</td>
<td>115 Radio Street</td>
<td>Bakersfield, CA 93305</td>
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<tr>
<td>Koi Nation of Northern California</td>
<td>Darin Beltran, Chairperson</td>
<td>P.O. Box 3162</td>
<td>Santa Rosa, CA 95402</td>
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<tr>
<td>Koi Nation of Northern California</td>
<td>Rob Morgan, Tribal Historic Preservation Officer</td>
<td>P.O. Box 3162</td>
<td>Santa Rosa, CA 95402</td>
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<tr>
<td>KonKow Valley Band of Maidu</td>
<td>Wallace Clark-Wilson, Chairperson</td>
<td>PO Box 5850</td>
<td>Oroville, CA 95966</td>
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<td>Kwaaymii Laguna Band of Mission Indians</td>
<td>Carmen Lucas</td>
<td>P.O. Box 775</td>
<td>Pine Valley, CA 91962</td>
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<td>La Jolla Band of Luiseno Indians</td>
<td>Thomas Rodriguez, Chairperson</td>
<td>22000 Highway 76</td>
<td>Pauma Valley, CA 92061</td>
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<td>La Posta Band of Mission Indians</td>
<td>Javaughn Miller, Tribal Administrator</td>
<td>8 Crestwood Road</td>
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<tr>
<td>La Posta Band of Mission Indians</td>
<td>Gwendolyn Parada, Chairperson</td>
<td>8 Crestwood Road</td>
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<tr>
<td>Laytonville Rancheria/Cahto Indian Tribe</td>
<td>Aimee R. Lucas, Chairperson</td>
<td>P.O. Box 1239</td>
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<td>Sonny Elliot, EPA Director</td>
<td>P.O. Box 1239</td>
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<td>Lone Pine Paiute Shoshone Reservation</td>
<td>Lone Pine Paiute, Environmental Director</td>
<td>P.O. Box 747</td>
<td>Lone Pine, CA 93545</td>
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<tr>
<td>Lone Pine Paiute Shoshone Reservation</td>
<td>Mary Wuester, Chairperson</td>
<td>P.O. Box 747</td>
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<tr>
<td>Los Coyotes Band of Mission Indians</td>
<td>Shane Chapparosa, Chairperson</td>
<td>P.O. Box 189</td>
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<tr>
<td>Lytton Rancheria of California</td>
<td>Marjorie Mejia, Chairperson</td>
<td>437 Aviation Blvd</td>
<td>Santa Rosa, CA 95403</td>
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<tr>
<td>Manchester-Point Arena Rancheria</td>
<td>Jaime Cobarrubla, Chairperson</td>
<td>P.O. Box 623</td>
<td>Point Arena, CA 95468</td>
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<tr>
<td>Manzanita Band of Kumeyaay Nation</td>
<td>Angela Elliott Santos, Chairperson</td>
<td>P.O. Box 1302</td>
<td>Boulevard, CA 91905</td>
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<td>Tribe/Community</td>
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<td>Mechoopda Indian Tribe of Chico Rancheria</td>
<td>Dennis E. Ramirez, Chairperson</td>
<td>125 Mission Ranch Blvd</td>
<td>Chico, CA 95926</td>
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<tr>
<td>Mesa Grande Band of Mission Indians</td>
<td>Virgil Oyos, Chairperson</td>
<td>P.O Box 270</td>
<td>Santa Ysabel, CA 92070</td>
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<tr>
<td>Middletown Rancheria of Pomo Indians</td>
<td>Jose Simon, Chairperson</td>
<td>P.O. Box 1035</td>
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<tr>
<td>Modoc Tribe of Oklahoma</td>
<td>John Ballard, Environmental Director</td>
<td>515 G Street Southeast</td>
<td>Miami, OK, 74354</td>
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<td>Mono Lake Indian Community</td>
<td>Charlotte Lange, Chairperson</td>
<td>P.O. Box 117</td>
<td>Big Pine, CA 93513</td>
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<tr>
<td>Mooretown Rancheria of Maidu Indians</td>
<td>Gary Archuleta, Chairperson</td>
<td>#1 Alverda Drive</td>
<td>Oroville, CA 95966</td>
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<td>Morongo Band of Mission Indians</td>
<td>Robert Martin, Chairperson</td>
<td>12700 Pumarra Road</td>
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<tr>
<td>Muwekma Ohlone Indian Tribe of the SF Bay Area</td>
<td>Rosemary Cambra, Chairperson</td>
<td>P.O. Box 360791</td>
<td>Milpitas, CA 95036</td>
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<tr>
<td>Nashville-El Dorado Miwok</td>
<td>Cosme Valdez, Interim Chief Executive Officer</td>
<td>P.O. Box 580986</td>
<td>Elk Grove, CA 95758-0017</td>
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<td>Nor-Rel-Muk Nation</td>
<td>Marilyn Delgado, Chairperson</td>
<td>P.O. Box 1967</td>
<td>Weaverville, CA 96093</td>
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<td>North Fork Mono Tribe</td>
<td>Ron Goode, Chairperson</td>
<td>13396 Tollhouse Road</td>
<td>Clovis, CA 93619</td>
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<td>North Fork Rancheria of Mono Indians</td>
<td>Judy Elaine Bethel-Fink, Chairperson</td>
<td>P.O. Box 929</td>
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<td>North Valley Yokuts Tribe</td>
<td>Katherine Erolinda Perez, Chairperson</td>
<td>P.O. Box 717</td>
<td>Linden, CA 95236</td>
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<tr>
<td>Northern Chumash Tribal Council</td>
<td>Fred Collins, Spokesperson</td>
<td>67 South Street</td>
<td>San Luis Obispo, CA 93401</td>
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<td>Noyo River Indian Community</td>
<td>Harriet L. Stanley-Rhoades</td>
<td>P.O. Box 91</td>
<td>Fort Bragg, CA 95437</td>
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<tr>
<td>Ohlone/Costanoan-Esselen Nation</td>
<td>Christanne Arias, Vice Chairperson</td>
<td>519 Viejo Gabriel</td>
<td>Soledad, CA 93960</td>
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<tr>
<td>Ohlone/Costanoan-Esselen Nation</td>
<td>Louise Miranda-Ramirez, Chairperson</td>
<td>P.O. Box 1301</td>
<td>Monterey, CA 93942</td>
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<tr>
<td>Pala Band of Mission Indians</td>
<td>Shasta Gaughan, Tribal Historic Preservation Officer</td>
<td>PMB 50, 35008 Pala Temecula Rd.</td>
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<td>Robert Smith, Chairperson</td>
<td>PMB 50, 35008 Pala Temecula Rd.</td>
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<td>Paskenta Band of Nomlaki Indians</td>
<td>Andrew Freeman, Chairperson</td>
<td>P.O. Box 709</td>
<td>Corning, CA 96021</td>
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<tr>
<td>Pauma Band of Luiseno Indians - Pauma &amp; Yuima Reservation</td>
<td>Temet Aguilar, Chairperson</td>
<td>P.O. Box 369, Ext. 303</td>
<td>Pauma Valley, CA 92061</td>
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<td>Pechanga Band of Mission Indians</td>
<td>Mark Macarro, Chairperson</td>
<td>P.O. Box 1477</td>
<td>Temecula, CA 92593</td>
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<td>Picayune Rancheria of Chukchansi</td>
<td>Reggie Lewis</td>
<td>Chairperson</td>
<td>8080 Palm Ave, Suite 207</td>
<td>Fresno, CA 93711</td>
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<tr>
<td>Picayune Rancheria of Chukchansi</td>
<td>Mary Matola</td>
<td>Tribal Historic Preservation Officer</td>
<td>8080 Palm Ave, Suite 207</td>
<td>Fresno, CA 93711</td>
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<tr>
<td>Pinoleville Pomo Nation</td>
<td>Leona Williams</td>
<td>Chairperson</td>
<td>500 B Pinoleville Drive</td>
<td>Ukiah, CA 95482</td>
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<td>Pinoleville Pomo Nation</td>
<td>Erica Carson</td>
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<td>500 B Pinoleville Drive</td>
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<td>Mickey Gemmill</td>
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<td>36970 Park Ave</td>
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<tr>
<td>Pit River Tribe of California - Madesi Band</td>
<td>Brandon Harrison</td>
<td>Cultural Resource Representative</td>
<td>36968 Park Avenue #R</td>
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<td>2251 South State Street</td>
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<td>Quartz Valley Indian Community</td>
<td>Harold Bennett</td>
<td>Chairperson</td>
<td>13601 Quartz Valley Road</td>
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<td>Quechan Tribe of the Fort Yuma Reservation</td>
<td>Michael Jackson</td>
<td>President</td>
<td>P.O. Box 1899</td>
<td>Yuma, AZ, 85366</td>
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<td>Ramona Band of Cahuilla Mission Indians</td>
<td>Joseph Hamilton</td>
<td>Chairperson</td>
<td>P.O. Box 391670</td>
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<td>Redding Rancheria</td>
<td>Jack Potter</td>
<td>Chairperson</td>
<td>2000 Redding Rancheria Road</td>
<td>Redding, CA 96001</td>
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<tr>
<td>Redwood Valley Rancheria of Pomo</td>
<td>Debra Ramirez</td>
<td>Chairperson</td>
<td>3250 Road I</td>
<td>Redwood Valley, CA 95470</td>
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<tr>
<td>Resighini Rancheria/Coast Indian Community</td>
<td>Rick Dowd</td>
<td>Chairperson</td>
<td>P.O. Box 529</td>
<td>Klamath, CA 95548</td>
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<td>Rincon Band of Mission Indians</td>
<td>Jim McPherson</td>
<td>Tribal Historic Preservation Officer</td>
<td>1 West Tribal Road</td>
<td>Valley Center, CA 92082</td>
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<tr>
<td>Rincon Band of Mission Indians</td>
<td>Bo Mazzetti</td>
<td>Chairperson</td>
<td>1 West Tribal Road</td>
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<tr>
<td>Robinson Rancheria of Pomo Indians</td>
<td>Eddie J. Crandall</td>
<td>Chairperson</td>
<td>P.O. Box 4015</td>
<td>Nice, CA 95464</td>
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<tr>
<td>Round Valley Reservation/Cvelo Indian Community</td>
<td>Kenneth Wright</td>
<td>President</td>
<td>77826 Covel Road</td>
<td>Covel, CA 95428</td>
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<tr>
<td>Salinan Tribe of Monterey, San Luis Obispo Counties</td>
<td>Patti Dunton</td>
<td>Tribal Administrator</td>
<td>7070 Morro Road, Suite A</td>
<td>Atascadero, CA 93422</td>
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<td>San Fernando Band of Mission Indians</td>
<td>John Valenzuela</td>
<td>Chairperson</td>
<td>P.O. Box 221838</td>
<td>Newhall, CA 91322</td>
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<td>San Luis Rey Band of Mission Indians</td>
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<td>1889 Sunset Drive</td>
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<td>San Manuel Band of Mission Indians</td>
<td>Lee Clauss, Director of Cultural Resources</td>
<td>26569 Community Center Drive</td>
<td>Highland, CA 92346</td>
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<td>San Pasqual Band of Mission Indians</td>
<td>Allen E. Lawson, Chairperson</td>
<td>P.O. Box 365</td>
<td>Valley Center, CA 92082</td>
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<td>Steven Estrada, Chairperson</td>
<td>P.O. Box 391820</td>
<td>Anza, CA 92539</td>
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<td>Santa Rosa Rancheria Tachi Yokut Tribe</td>
<td>Rueben Barrios, Chairperson</td>
<td>P.O. Box 8</td>
<td>Lemoore, CA 93245</td>
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<td>Santa Ynez Band of Mission Indians</td>
<td>Kenneth Kahn, Chairperson</td>
<td>P.O. Box 517</td>
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<td>Gabriel Ray, Chairperson</td>
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<td>Serrano Nation of Mission Indians</td>
<td>Goldie Walker, Chairperson</td>
<td>P.O. Box 343</td>
<td>Patton, CA 92369</td>
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<td>Sarni Jo Difuntorum, Cultural Resource Coordinator</td>
<td>P.O. Box 634</td>
<td>Newport, OR</td>
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<td>Hillary Renick, Tribal Historic Preservation Officer</td>
<td>190 Sherwood Hill Drive</td>
<td>Willits, CA 95490</td>
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<td>Nicholas Fonseca, Chairperson</td>
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<td>Shingle Springs, CA 95682</td>
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<td>Soboba Band of Luiseno Indians</td>
<td>Carrie Garcia, Cultural Resources Manager</td>
<td>P.O. Box 487</td>
<td>San Jacinto, CA 92581</td>
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<td>Joseph Ontiveros, Cultural Resources Department</td>
<td>P.O. Box 487</td>
<td>San Jacinto, CA 92581</td>
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<td>Lois Martin, Chairperson</td>
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<tr>
<td>Strawberry Valley Rancheria</td>
<td>Cathy Bishop, Chairperson</td>
<td>P.O. Box 667</td>
<td>Marysville, CA 95901</td>
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<td>Susanville Indian Rancheria</td>
<td>Brandon Gutierrez, Chairperson</td>
<td>745 Joaquin Street</td>
<td>Susanville, CA 96130</td>
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<td>Sycuan Band of the Kumeyaay Nation</td>
<td>Cody J. Martinez, Chairperson</td>
<td>1 Kwaaypaay Court</td>
<td>El Cajon, CA 92019</td>
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<td>Table Mountain Rancheria</td>
<td>Leanne Walker-Grant, Chairperson</td>
<td>P.O. Box 410</td>
<td>Friant, CA 93626</td>
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<td>Tejon Indian Tribe</td>
<td>Katherine Montes Morgan, Chairperson</td>
<td>1731 Hasli-acres Drive, Suite 108 Kitanemuk</td>
<td>Bakersfield, CA 93309</td>
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<td>The Ohlone Indian Tribe</td>
<td>Andrew Galvan</td>
<td>P.O. Box 3152</td>
<td>Fremont, CA 94539</td>
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<td>Torres-Martinez Desert Cahuilla Indians</td>
<td>Michael Mirelez, Guttural, Resource Coordinator</td>
<td>P.O. Box 1160</td>
<td>Thermal, CA 92274</td>
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<td>Torres-Martinez Desert Cahuilla Indians</td>
<td>Mary Resvaloso, Chairperson</td>
<td>P.O. Box 1160</td>
<td>Thermal, CA 92274</td>
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**Appendix G**
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<tr>
<th>Tribe</th>
<th>Chairperson Name</th>
<th>Address</th>
<th>City, State, Zip Code</th>
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<tr>
<td>Traditional Choinumni Tribe</td>
<td>David Alvarez</td>
<td>2415 E. Houston Avenue</td>
<td>Fresno, CA 93720</td>
</tr>
<tr>
<td>Tsi Akim Maidu</td>
<td>Don Ryberg</td>
<td>11442 Butler Road</td>
<td>Grass Valley, CA 95945</td>
</tr>
<tr>
<td>Tsi Akim Maidu</td>
<td>Grayson Coney</td>
<td>P.O. Box 1316</td>
<td>Colfax, CA 95713</td>
</tr>
<tr>
<td>Tsnungwe Council</td>
<td>Paul Ammon</td>
<td>P.O. Box 373</td>
<td>Salyer, CA 95563</td>
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<tr>
<td>Tubatulabalas of Kern Valley</td>
<td>Robert L. Gomez</td>
<td>P.O. Box 226</td>
<td>Lake Isabella, CA 93240</td>
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<td>Tule River Indian Tribe</td>
<td>Neil Peyron</td>
<td>P.O. Box 589</td>
<td>Porterville, CA 93258</td>
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<td>Tule River Indian Tribe</td>
<td>Kerri Vera</td>
<td>P. O. Box 589</td>
<td>Porterville, CA 93258</td>
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<td>Tule River Indian Tribe</td>
<td>Joey Garfield</td>
<td>P. O. Box 589</td>
<td>Porterville, CA 93258</td>
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<td>Tuolumne Band of Me-Wuk</td>
<td>Kevin Day</td>
<td>P.O. Box 699</td>
<td>Tuolumne, CA 95379</td>
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<tr>
<td>Twenty-Nine Palms Band of Mission Indians</td>
<td>Anthony Madrigal</td>
<td>46-200 Harrison Place</td>
<td>Coachella, CA 92236</td>
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<tr>
<td>United Auburn Indian Community of the Auburn Rancheria</td>
<td>Gene Whitehouse, Chairperson</td>
<td>10720 Indian Hill Road</td>
<td>Auburn, CA 95603</td>
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<tr>
<td>Viejas Band of Kumeyaay Indians</td>
<td>Robert J. Welch</td>
<td>1 Viejas Grade Road</td>
<td>Alpine, CA 91901</td>
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<tr>
<td>Wadatkuta Band of the Northern Paiute of the Honey Lake Valley</td>
<td>Harold Dixon, Chairperson</td>
<td>P.O. Box 541</td>
<td>Susanville, CA 96130</td>
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<td>Walker River Reservation</td>
<td>Melanie McFalls</td>
<td>P.O. Box 220</td>
<td>Schurz, NV 89427</td>
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<tr>
<td>Washoe Tribe of Nevada and California</td>
<td>Darrel Cruz, Cultural Resources Depart</td>
<td>919 Highway 395 South</td>
<td>Gardnerville, NV 89410</td>
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<td>Wilton Rancheria</td>
<td>Raymond Hitchcock</td>
<td>9728 Kent Street</td>
<td>Elk Grove, CA 95624</td>
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<td>Winnemem Wintu Tribe</td>
<td>Caleen Sisk-Franco</td>
<td>14840 Bear Mountain Road</td>
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<td>Wintu Tribe of Northern California</td>
<td>Kelli Hayward</td>
<td>P.O. Box 995</td>
<td>Shasta Lake, CA 96019</td>
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<td>Wiyot Tribe</td>
<td>Tom Torma, Tribal Historic Preservation Officer</td>
<td>1000 Wiyot Drive</td>
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<td>Wiyot Tribe</td>
<td>Ted Hernandez, Chairperson</td>
<td>1000 Wiyot Drive</td>
<td>Loleta, CA 95551</td>
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<td>Wuksache Indian Tribe/Eshom Valley Band</td>
<td>Kenneth Woodrow, Chairperson</td>
<td>1179 Rock Haven Ct.</td>
<td>Salinas, CA 93906</td>
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<tr>
<td>Xolon-Salinan Tribe</td>
<td>Karen White</td>
<td>PO Box 7045</td>
<td>Spreckels, CA 93962</td>
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<tr>
<td>yak tityu tityu - Northern Chumash Tribe</td>
<td>Mona Olivas Tucker</td>
<td>660 Camino Del Rey</td>
<td>Arroyo Grande, CA 93420</td>
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Appendix G
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<tr>
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<th>Contact Person</th>
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<tr>
<td>Yocha Dehe Wintun Nation</td>
<td>Leland Kinter</td>
<td>Chairperson</td>
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<td>Brooks, CA 95606</td>
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<tr>
<td>Yurok Tribe of California</td>
<td>James Dunlap</td>
<td>Chairperson</td>
<td>PO Box 1027</td>
<td>Klamath, CA 95548</td>
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<tr>
<td>Yurok Tribe of California</td>
<td>Robert McConnell</td>
<td>Tribal Historic Preservation Officer</td>
<td>HC 67 P.O. Box 196, Highway 96</td>
<td>Hoopa, CA 95546</td>
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<tr>
<td>Yurok Tribe of California</td>
<td>Yurok Tribe</td>
<td>NAGPRA Coordinator</td>
<td>P.O. Box 1027</td>
<td>Klamath, CA 95548</td>
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Hi Crystal,

I received the first request for consultation this morning from Tina with the Benton Paiute Tribe. She was all motivated to have a larger consultation for several tribes but I relayed to her that we will only do consultation with tribes we receive requests from.

Her contact information is as follows:
Tribal office: (760) 933-2321
Cell: (775) 223-3830
Email: T.Braithwaite@bentonpaiutereservation.org

Thanks,

Amber Morris
Branch Chief
CalCannabis Cultivation Licensing
California Department of Food and Agriculture
amber.morris@cdfa.ca.gov
(916) 263-0801
Updated THPO contact information for

Robert Columbro [robert@buenavistatribe.com]

To: CDFA CalCannabis PEIR@CDFA
Attachments: CDFA Cannabis Cultivation ~1.pdf (461 KB) [Open as Web Page]

FYI
Please note for your records that the Buena Vista Rancheria THPO contact info. has changed. Tribes comments regarding this notice will follow in a few days.

Robert Columbro
Tribal Historic Preservation Officer/
Environmental Scientist
Buena Vista Rancheria of ME-WUK Indians
1418 20th Street, Suite 200
Sacramento, CA  95811
916-491-0011 phone
916-491-0012 fax

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Chairwoman of The Seminole Nation of Mission Indians
San Bento, California

Notes By: Ernie Walker - September 1, 2016
Thursday 11 A.M.

To Amber Morris Branch Chief,
To Whom It May Concern,

I wish to apply for a license
to grow "Medical Cannabis Cultivation Program"
This would be for Medical production.

The aspects of the production process.
This would establish a treat and tree system.
This involves development of unique
identification for each individual plant, from the
sale of cannabis. This involves providing the
public responsible agencies, trusted agencies, and
permittting about the environmental effects
with informing of those statewide regulations.

This would be covered by the California Environ-
mental Implementation of those statewide provision
applicable laws to insure the movement of the
Medical Cannabis complying with the laws as
previously mentioned.

These are the following objectives:

Establish minimum for indoor, outdoor, and
mixed light achieved by cultivators, in order
to obtain those Medical cannabis licenses.

A limit on the quantity of licenses issued
as I request for the type A, B, 3A, and 3B cultivation
categories. The effects the upstream water flows
needed for "fishing" which is spawning or needed;
Migration, and Rearing the flows needed for
maintaining natural flowing variability.

No negative impact on springs, repARATION wetlands
& aquatic habitats.
As a Native American of the "Serrano Nation of Mission Indians," I wish to protect our homeland, our Mother Earth. We would be protecting our natural habitat, for our immediate tribes and as well as our future for the generations of the First Americans, the Native American. We wish to join hands in spirit and strength to support all of our people and self. Respectfully,

Belle Walker
Chair Woman of
The Serrano Nation of Mission Indians
San Bernardino, California
RESIGHINI RANCHERIA
A Federally Recognized Indian Tribe

156 East Klamath Beach Road, Post Office Box 529, Klamath, California 95548

September 12, 2016

Amber Morris, Branch Chief
Medical Cannabis Cultivation Program
California Department of Food and Agriculture, MCCP
1220 N Street, Suite 400
Sacramento, CA 95814

Re: Request for Consultation Regarding the Proposed Cannabis Cultivation Program

Dear Branch Chief Morris:

In response to your August 24, 2016 letter to my office, please let this letter serve as a request for consultation regarding any potential impacts of this project on tribal or cultural resources throughout Indian Country in California.

The name and address of our contact person follows:

Phil Smith, Program Assistant
Chairman’s Office
Resighini Rancheria
P. O. Box 529
Klamath, CA 95548
Tel: 707 482-2431
Email: pro.tec@frontier.com

Sincerely,

Rick R. Dowd, Chairman
Resighini Rancheria Tribal Council

cc: Tribal Council Members
Donald D. Valenzuela, Tribal Manager
Phil Smith, Program Assistant
From: Kimia Fatehi <kfatehi@tataviam-nsn.us>
Sent: Monday, July 24, 2017 6:23 PM
To: CDFA CalCannabis PEIR@CDFA
Subject: Tribal Consultation: CalCannabis Cultivation Licensing

Hello,

Thank you for the notification and the opportunity to consult on the above referenced project. To protect tribal cultural resources, the Fernandeño Tataviam Band of Mission Indians (Tribe) would like to consult on the above referenced project. Please let me know when is most convenient to initiate consultation. I can be reached at 1019 Second St. San Fernando, CA 91340, (818)837-0794, or by e-mail at kfatehi@tataviam-nsn.us

Thank you so much.

Respectfully,

Kimia

--

Kimia Fatehi
Director, Public Relations
Officer, Tribal Historic and Cultural Preservation
Fernandeño Tataviam Band of Mission Indians
1019 Second Street, Suite 1
San Fernando, California 91340
Office: (818) 837-0794
Website: http://www.tataviam-nsn.us
Hello,

I hope this finds you well. Please find attached the Fernandeño Tataviam Band of Mission Indians' response. Please confirm that you have received this message.

Respectfully,
Kimia

---

Kimia Fatehi
Director, Public Relations

Fernandeño Tataviam Band of Mission Indians
1019 Second Street, Suite 1
San Fernando, California 91340
Mobile: (949) 235-2838
Office: (818) 837-0794
Website: http://www.tataviam-nsn.us
SENT VIA EMAIL

September 26, 2016

RE: MEDICAL CANNABIS CULTIVATION PROGRAM COMMENTS

Dear Amber Morris,

The Fernandeño Tataviam Band of Mission Indians (Tribe) thanks you for the opportunity to consult on the above referenced project (Project) for Tribal Cultural Resources under the California Environmental Quality Act, Assembly Bill 52 (Gatto, 2014).

The Tribe has reviewed the submitted document(s) and has the following comments:

The Tribe would like to consult on the proposed Program to ensure proper mitigation to cultural resources within the Fernandeño Tataviam Tribal Territory.

If you have any questions regarding the letter, please contact Kimia Fatehi at (818) 837-0794 or via email at thcp@tataviam-nsn.us between 9:00 am to 3:00 pm, Monday through Friday.

Sincerely,

Kimia Fatehi
May 26, 2017

[ VIA EMAIL TO: amber.morris@cdfa.ca.gov ]
California Department of Food & Agriculture
Ms. Amber Morris
1220 N Street, Suite 400
Sacramento, CA 95814

Re: Revised NOP for the CalCannabis Cultivation Licensing Program

Dear Ms. Amber Morris,

The Agua Caliente Band of Cahuilla Indians (ACBCI) appreciates your efforts to include the Tribal Historic Preservation Office (THPO) in the Medical Cannabis Cultivation Licensing project. We have reviewed the documents and have the following comments:

* At this time ACBCI has no comments, but please continue to provide our office with updates as the project progresses. Also, please inform our office if there are changes to the scope of this project.

Again, the Agua Caliente appreciates your interest in our cultural heritage. If you have questions or require additional information, please call me at (760)699-6828. You may also email me at hfeeney@aguacaliente.net.

Cordially,

Hannah Feeney
Archaeological and Archives Technician
Tribal Historic Preservation Office
AGUA CALIENTE BAND
OF CAHUILLA INDIANS
May 24, 2017

Amber Morris
CalCannabis Cultivation Licensing
California Dept. of Food and Agriculture
1220 N Street, Suite 400
Sacramento, CA 95814

Re: California Department of Food and Agriculture Medical and Non-medical Cannabis Cultivation Licensing Program Environmental Impact Report

Dear Ms. Morris:

The Pala Band of Mission Indians Tribal Historic Preservation Office has received your notification of the project referenced above. This letter constitutes our response on behalf of Robert Smith, Tribal Chairman.

We have consulted our maps and determined that the project as described is not within the boundaries of the recognized Pala Indian Reservation. It is, however, within the boundaries of the territory that the tribe considers its Traditional Use Area (TUA). Because this project is not an actual development project, we do not request consultation at this time. However, if the project is modified to include any sort of construction or other ground-disturbing activity, we wish to be notified so we can reassess the need for consultation.

We appreciate involvement with your initiative and look forward to working with you on future efforts. If you have questions or need additional information, please do not hesitate to contact me by telephone at 760-891-3515 or by e-mail at sgaughen@palatribe.com.

Sincerely,

Shasta C. Gaughen, PhD
Tribal Historic Preservation Officer
Pala Band of Mission Indians

ATTENTION: THE PALA TRIBAL HISTORIC PRESERVATION OFFICE IS RESPONSIBLE FOR ALL REQUESTS FOR CONSULTATION. PLEASE ADDRESS CORRESPONDENCE TO SHASTA C. GAUGHEN AT THE ABOVE ADDRESS. IT IS NOT NECESSARY TO ALSO SEND NOTICES TO PALA TRIBAL CHAIRMAN ROBERT SMITH.
August 29, 2016

[VIA EMAIL TO: amber.morris@cdfa.ca.gov]
California Department of Food & Agriculture
Ms. Amber Morris
1220 N Street, Suite 400
Sacramento, CA 95814

Re: Medical Cannabis Cultivation Licensing

Dear Ms. Amber Morris,

The Agua Caliente Band of Cahuilla Indians (ACBCI) appreciates your efforts to include the Tribal Historic Preservation Office (THPO) in the Medical Cannabis Cultivation Licensing project.

*Continued consultation on this project.

* Please continue to use the contact information on file for Patricia Garcia-Plotkin, Director

Again, the Agua Caliente appreciates your interest in our cultural heritage. If you have questions or require additional information, please call me at (760)699-6981. You may also email me at vharvey@aguacaliente.net.

Cordially,

Victoria Harvey
Archaeological Monitoring Coordinator
Tribal Historic Preservation Office
AGUA CALIENTE BAND
OF CAHUILLA INDIANS
May 2, 2017

Amber Morris
California Department of Food and Agriculture
CalCannabis Cultivation Licensing
1220 N Street, Suite 400
Sacramento, CA 95814

RE: CalCannabis Cultivation Licensing program

Ayukii Ms. Morris,

Cannabis cultivation is a major political, social, economic and environmental issue in Karuk Aboriginal Territory which is comprised of portions of Humboldt, Del Norte and Siskiyou Counties. The Karuk Tribe retains sovereign authority and jurisdiction over its Lands, Members, and Territory. Within Karuk Aboriginal Territory, both legal and illegal cannabis cultivation operations are de-watering many of the tributary streams that our fishery resources depend on and the widespread associated use of herbicides, insecticides, and rodenticides are negatively affecting our water quality and cultural beneficial uses. In addition, cannabis cultivation is also negatively impacting the free expression and exercise of Karuk Religious rituals and Ceremonies. At this critical stage in the development of the regulatory process, it is imperative that effective protective measures be established and enforced in order to safeguard at risk cultural and natural resources. While new State and County laws, policies and ordinances and associated regulatory processes are being developed and implemented we are experiencing an unprecedented increase in the number and scale of new cannabis cultivation operations occurring within Karuk Aboriginal Territory. The magnitude of risk to our cultural and biological resources is likewise increasing and requires timely and deliberate tribal consultation and coordination.

The Karuk Tribe’s consultation policy defines Consultation as “the process of seeking, discussing, and seriously considering the views of the Karuk Tribe, and seeking agreement with the Karuk Tribe on the development of regulations, rules, policies, programs, projects, plans, property decisions, and activities that may affect Tribal Resources, historic properties, contemporary cultural practices, and those persons under Tribal jurisdiction. This requires true government-to-government contact between the agency, government, or department and the Tribe, where high level Agency representatives meet with Tribal leaders as well as staff.”

The increased cultivation of cannabis within the Karuk Aboriginal Territory along with State and County efforts to regulate this activity has important implications for tribal civil and criminal jurisdiction. Because of the complex Federal, Tribal, State and Local jurisdictional authority issues raised by the regulation of cannabis cultivation, the Karuk Tribe requests ongoing consultation,
coordination and collaboration prior to the issuance of any permits within the Karuk Aboriginal Territory.

This correspondence is intended to serve as a formal request to initiate government to government consultation. We strongly encourage and invite the California Department of Food and Agriculture and applicable staff to meet and confer with Karuk Tribal officials and staff to discuss this matter in detail.

In the interim, we offer the following thoughts for consideration in the development of cannabis cultivation policy and/or regulation that may currently be in progress.

1) **Initiate Government to Government Consultation.** The expectation of providing meaningful input by the tribe within the time constraints is unreasonable. This is especially glaring given we only received a portion of the draft policy deemed by staff to be important and relevant to the tribe. We cannot comment on what we do not see.

2) **Provide the full Draft Cannabis Cultivation Policy.** Without the ability to review the draft policy in totality we cannot gauge the extent of the impact, nor suggest reasonable mitigation measures.

3) **No cannabis cultivation within 1,000ft of Tribally Identified Cultural Resources.** In addition to relying on Public Resources Code 21074, additional language in the policy should include “Tribal Cultural Resources shall also include sites or resources identified by the tribe through an action of the Tribal Council or equivalent body.”

4) **Require Cannabis Cultivator to engage the Karuk Tribe for any activity within our Aboriginal Territory:** The adequate protection of tribal cultural resources and any potential mitigation measures requires close coordination and formal agreement between the Karuk Tribe and the cultivator and/or property owner.

5) **Require involvement of Tribal Historic Preservation Officers.** The Karuk Tribe has a well-recognized Aboriginal Territory, within this area, the policy should require a process similar to a Timber Harvest Plan, involving site visits, cultural surveys, possible use of monitors in ground disturbing activities, and records checks. It should be pointed out that the involvement of the Tribal Historic Preservation Officer is crucial on this, since there is a large amount of local knowledge that is held by the Tribe, and that specific places in the landscape are the markers of certain practices, including gathering, hunting, spiritual, and other uses. A standard records check and cultural survey conducted by an outside agency would have severe limitations if not conducted with input from the Tribe. There are many resources that the Tribe holds knowledge of which are not recorded in the CHRIS system. This method has traditionally been the best method to protect Cultural Resources against vandalism and other deliberate impacts.

6) **Mandatory Water Forbearance Between May 15 through October 31.** Water diversions during the dry season are a key factor in the decline of our fisheries resources. Cannabis Cultivation Policy should allow no surface water diversions between May 15 and October 31 from any stream bearing anadromous fish populations, or directly contributing to the quality of
cold water refugia, and establish on-site water storage for retention of wet season flows sufficient to provide adequate irrigation water for the size of the area to be cultivated, or 2) submit a water management plan prepared by a qualified person such as a licensed engineer, hydrologist, or similar qualified professional, that establishes minimum water storage and forbearance period, if required, based upon local site conditions, or 3) obtain approval from the RWQCB through enrollment pursuant to NCRWQB Order No. 2015-0023 and/or preparation of a Water Resources Protection Plan.

7) **California Department of Food and Agriculture coordinate with local water districts to ensure water usage by cannabis cultivator within its service area.** Small community water districts in Karuk Aboriginal Territory struggle to provide drinking water in the summer already. Cannabis operations further strain limited water resources. If a water district it is struggling to supply water for drinking, it should have the authority to place moratoriums on cannabis cultivation, limit water usage for cultivation purposes.

8) **Honor Tribal jurisdiction, law, regulation, and policy.** It is basic precept of federal law that tribes have civil jurisdiction over their members and territory and concurrent criminal jurisdiction within Public Law 83-280. The chemical pollutants accompanying the cultivation of marijuana are prohibited under Karuk tribal law. The Karuk Tribe has established by resolution a tribal law prohibiting the discharge of “pollutant(s) into the waters of the Karuk Aboriginal Territory” (Anti-Pollution Ordinance, 8.3.01 (1996)). Pesticides, herbicides, and other chemical additives poison our landscape and our People. Our basket weavers use their teeth to hold basket materials when they process them. These chemical poisons can affect their health and the health of culturally important species such as martins and fishers. State agencies such as Caltrans already honor our tribal authority to enact such laws and ceased their managerial use of pesticides and herbicides in District 1 for well over a decade. This is the sort of relationship we would like to establish and maintain with state and local agencies.

We appreciate the California Department of Food and Agriculture staff’s hard work on this complex issue. We urge an abundance of caution as the state moves into uncharted territory. The Karuk Tribe recognizes the economic opportunities afforded by changes in state law regarding cannabis cultivation; however, we must act to ensure that our eco-cultural resources, beneficial uses and other significant tribal interests are adequately protected at the same time. We also believe it is imperative that the State meet its statutory and moral obligations to consult with the Karuk Tribe prior to the approval of a Cannabis Cultivation Policy which may have negative implications to tribal members, territories, resources and cultural properties.

Yootva,

Leaf Hillman  
Natural Resources Director
May 31, 2017

Amber Morris, Branch Chief
CalCannabis Cultivation Licensing
California Department of Food & Agriculture
1220 N Street Suite 400
Sacramento CA 95814

Ms. Morris,

Re: Consultation on Cannabis Program Environmental Impact Report

In response to your letter received in this office on May 4, 2017, the Scotts Valley Band of Pomo Indians’ Tribal Council at its meeting held yesterday May, 30, 2017 directed staff to request a consultation on the Cannabis Program Environmental Impact Report, as amended to address the inclusion of the Adult Use Marijuana Act.

The Council, while not at this time pursuing cannabis cultivation, is very concerned with its cultivation as proposed here in Lake County. The potential environmental devastation, as noted in your letter, is a reality if mitigating efforts are not established.

Council Member Patricia Franklin will take the in representing the Tribal Council in this consultation along with myself, as Tribal Administrator. We look forward to hearing from you on the next steps in this process.

Respectfully submitted,

[Signature]

Thomas Jordan
Tribal Administrator.
September 6, 2016

Amber Morris, Branch Chief
Medical Cannabis Cultivation Program
California Department of Food and Agriculture, MCCP
1220 N Street, Suite 400
Sacramento, CA 95814

Subject: California Department of Food and Agriculture Medical Cannabis Cultivation Licensing Program Environmental Impact Report

Dear Ms. Morris,

Buena Vista Rancheria of Me-Wuk Indians has received your letter dated August 25, 2016, concerning the intent of California Department of Food and Agriculture (CDFA) to file Notice of Preparation of a Programmatic Environmental Impact Report (PEIR) for the Medical Cannabis Cultivation Program. The letter provides an outline of the background and purpose of the PEIR, and invites tribal consultation.

Tribal Council has concern about the impact to cultural and natural resources during the cultivation of medical cannabis, and wishes to participate as a consulting party during preparation of the PEIR. As Environmental Resource Department Director and Tribal Historic Preservation Officer, I am the authorized designated lead person. I may be contacted by telephone at 916-491-0011, by email at roselynn@buenavistatribe.com, or by mail at the address below. Honorable Chairwoman Rhonda Morningstar Pope may also be contacted at the same phone number and address.

We look forward to receiving information about this project, and working with the CDFA to ensure protection of our cultural and natural heritage resources.

Sincerely,

[Signature]

Roselynn Lienen, Ph.D.
Environmental Resources Director
Tribal Historic Preservation Officer
September 7, 2016

VIA: CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Amber Morris, Branch Chief
Medical Cannabis Cultivation Program
California Department of Food and Agriculture, MCCP
1220 N Street, Suite 400
Sacramento, CA 95814

Re: California Department of Food and Agriculture Medical Cannabis Cultivation Licensing Program/Environmental Impact Report

Dear Ms. Morris:

Thank you for your letter of August 24, 2016 directed to Chairman Welmas, a copy of which is enclosed for your convenience. The Cabazon Band of Mission Indians respectfully requests a consultation regarding any potential impacts to its cultural resources.

Please feel free to contact the undersigned to make arrangements for the consultation. Thank you.

Best regards,

Paul L. MacKey
Cabazon Agricultural Commission

cc: Ms. Judy Stapp (w/o enclosure)
August 24, 2016

Doug Welmas, Chairperson
Cabazon Band of Mission Indians
84-245 Indio Springs Parkway
Indio, CA 92203

Subject: California Department of Food and Agriculture Medical Cannabis Cultivation Licensing Program Environmental Impact Report

Dear Honorable Doug Welmas, Chairperson:

The California Department of Food and Agriculture (CDFA) is preparing to file a Notice of Preparation (NOP) of a Programmatic Environmental Impact Report (PEIR) for the Medical Cannabis Cultivation Program (MCCP), as required by California Code of Regulations title 14, section 15000 et seq. This PEIR is being prepared in response to the Medical Cannabis Regulation and Safety Act (Act) that was signed by Governor Brown in 2015. The Act outlines a new structure for regulation and enforcement of medical cannabis production and use in California. The Act addresses issues such as cultivation, manufacture of cannabis products, quality control and inspection, distribution, dispensaries, and prescriptions for patients. The Act also establishes new licensing procedures for various aspects of the production process.

CDFA is tasked with licensing medical cannabis cultivation, as well as establishing a "track and trace" system, which involves development of a unique identifier for each plant, a reporting system, fees, and a method to document the transport path of plants from cultivation to sale of the medicinal cannabis product. The cultivation licensing and track and trace system are collectively considered the MCCP or Proposed Program. CDFA is preparing a PEIR to provide the public, responsible agencies, trustee agencies, and permitting agencies with information about the potential environmental effects associated with the adoption and implementation of these statewide regulations. The PEIR will be prepared by CDFA in accordance with the provisions of the California Environmental Quality Act (CEQA) and the State CEQA Guidelines.

The overall purpose of CDFA’s MCCP is to establish a regulatory licensing program that would ensure that medical cannabis cultivation operations would be performed in a manner that protects the environment, cannabis cultivation workers, and the general public from the individual and cumulative effects of these operations, and fully complies with all applicable laws. An additional purpose of MCCP is to establish a track and trace program to ensure the movement of medical cannabis items are tracked throughout the production chain.

The regulations will be developed to achieve the following objectives:

- Establish minimum requirements for indoor, outdoor, and mixed light medical cannabis cultivation operations that must be achieved by cultivators in order to obtain a cultivation license from CDFA;

- Establish a limit on the quantity of licenses issued for the Type 3, 3A, and 3B cultivation categories;

- Ensure that individual and cumulative effects of water diversion and discharge associated with cultivation do not affect the instream flows needed for fish spawning, migration, and rearing, and the flows needed to maintain natural flow variability;

- Ensure that cultivation will not negatively impact springs, riparian wetlands, and aquatic habitats;
- Require that cannabis cultivation by licensees is conducted in accordance with state and local laws related to land conversion, grading, electricity usage, water usage, water quality, woodland and riparian habitat protection, agricultural discharges, and similar matters;
- Establish procedures for the issuance and revocation of unique identifiers for activities associated with a cannabis cultivation license;
- Prescribe standards for the reporting of information as necessary related to unique identifiers;
- Establish a scale of application, licensing, and renewal fees, based upon the cost of administering and enforcing the Program; and
- Develop a cultivation checklist tool that can be used by CDFA, other agencies, and local governments to evaluate environmental impacts of cannabis cultivation license programs.

Pursuant to Public Resources Code Section 21080.3.1 et seq., the CDFA is notifying you of our intent to consider the Proposed Program, including its potential for impacting tribal cultural resources. The regulations require that you contact us within 30 days from your receipt of this letter to request a consultation regarding any potential impacts of this project on tribal cultural resources. If you wish to request the consultation, or if you have any questions, please contact:

Amber Morris, Branch Chief  
Medical Cannabis Cultivation Program  
California Department of Food and Agriculture, MCCP  
1220 N Street, Suite 400  
Sacramento, CA 95814  
Phone: (916) 263-0801  
Email: amber.morris@cdfa.ca.gov

If you do not contact us within 30 days following receipt of this letter, the CDFA will proceed with processing the above referenced application with the assumption that your tribe does not wish to consult about the potential effects of the MCCP on tribal cultural resources. If consultation is requested, please provide the name and contact information of the designated lead contact person as part of your request. The CDFA will contact the designated person to set a meeting date to begin consultation within 30 days of our receipt of your request.

More detailed information about this project is available on the internet at https://www.cdfa.ca.gov/is/mccp. Thank you for giving this matter your prompt attention.

Sincerely,

Amber Morris, Chief  
Medical Cannabis Cultivation Program  
Division of Inspection Services
May 16, 2017

CERTIFIED MAIL # 7011 0470 0003 3097 1988
RETURN RECEIPT REQUESTED

Amber Morris, Chief
CalCannabis Cultivation Licensing | Division of Inspection Services
1220 N Street
Sacramento, CA 95814

RE: Medical Cannabis Cultivation Program (MCCP)

Dear Ms. Morris,

This letter is in response to the California Department of Food and Agriculture and their request for input from the Twenty-Nine Palms Band of Mission Indians, on the Medical Cannabis Cultivation Program. The Twenty-Nine Palms Band of Mission Indians (Tribe), a federally recognized tribe, with two reservations – one located near the cities of Coachella in Riverside County and the other located near the city of Twentynine Palms in San Bernardino County. The Tribe also operates a Tribal Historic Preservation Office (THPO), which aims to protect and preserve sites, structures, and districts that are within the ancestral territory of the Chemehuevi, which is overseen by a Tribal Historic Preservation Officer. As there is an increase of cannabis cultivation facilities, the Tribe is already experiencing projects that require mitigation measures to protect cultural resources. The construction of cannabis-related facilities may affect cultural resources that concern the Tribe. A review of the Draft PEIR is requested to provide further input. Additionally, the Tribe seeks consultation and notification of any updates to this project.

If you have any questions, please do not hesitate to contact the THPO at (760) 775-3259 or by email: TNPConsultation@29palmsbomi-nsn.gov.

Sincerely,

[Signature]
Anthony Madrigal, Jr.
Tribal Historic Preservation Officer

cc: Darrell Mike, Twenty-Nine Palms Tribal Chairman
Sarah Bliss, Twenty-Nine Palms Tribal Cultural Specialist
July 20, 2017

RE: Formal Request for Tribal Consultation Pursuant to the California Environmental Quality Act (CEQA), Public Resources Code section 21080.3.1, subds. (b), (d) and (e) for the Medical and Non-Medical Cannabis Cultivation Licensing Program Environmental Impact Report, a project within the Federated Indians of Graton Rancheria’s Ancestral Lands.

Dear Agency Representative:

This letter constitutes a formal request for tribal consultation under the provisions of the California Environmental Quality Act (CEQA) (Public Resources Code section 21080.3.1 subdivisions (b), (d) and (e) for the mitigation of potential project impacts to tribal cultural resource for a project within the Federated Indians of Graton Rancheria’s ancestral lands.

Receiving this letter sets forth the Tribe’s formal request for consultation on the following topics checked below, which shall be included in consultation if requested (Public Resources Code section 21080.3.2, subd. (a):

___ x ___ Alternatives to the project
___ x ___ Recommended mitigation measures
___ x ___ Significant effects of the project

The Tribe also requests consultation on the following discretionary topics checked below (Public Resources Code section 21080.3.2, subd. (a):

___ x ___ Type of environmental review necessary
___ x ___ Significance of tribal cultural resources, including any regulations, policies or standards used by your agency to determine significance of tribal cultural resources
___ x ___ Significance of the project’s impacts on tribal cultural resources
___ x ___ Project alternatives and/or appropriate measures for preservation or mitigation that we may recommend, including, but not limited to:

1) Avoidance and preservation of the resources in place, pursuant to Public Resources Code section 21084.3, including, but not limited to, planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks or other open space, to incorporate the resources with culturally appropriate protection and management criteria;

2) Treating the resources with culturally appropriate dignity taking into account the tribal
cultural values and meaning of the resources, including but not limited to the following:
   a. Protecting the cultural character and integrity of the resource;
   b. Protection the traditional use of the resource; and
   c. Protecting the confidentiality of the resource.

(3) Permanent conservation easements or other interests in real property, with culturally
   appropriate management criteria for the purposes of preserving or utilizing the resources
   or places.

(4) Protecting the resource.

Additionally, the Tribe would like to receive any cultural resources assessments or other
   assessments that have been completed on all or part of the project’s potential “area of project
   effect” (APE), including, but not limited to:

1). The results of any record search(es) conducted at an archaeological information center
   of the California Historical Resources Information System (CHRIS), including, but not
   limited to:
   
   (a) Any known cultural resources that have already been recorded on or adjacent to
       the potential APE;
   (b) Whether the probability is low, moderate or high that cultural resources are
       located in the potential APE; and
   (c) If a survey is required to determine whether previously unrecorded cultural
       resources are present in the potential APE.

2). The results of any archaeological inventory survey that was conducted of all or part of
   the potential APE, including, but not limited to:
   
   (a) Any report that may contain site forms, site significance, and suggested
       mitigation measures.

3). The results of any Sacred Lands File searches conducted through the Native American
   Heritage Commission for all or part of the potential APE;

4). Any ethnographic studies conducted for any area including all or part of the potential
   APE; and

5) Any geotechnical reports regarding all or part of the potential APE.

We would like to remind your agency that CEQA Guidelines section 15126.4, subdivision (b)(3)
states that preservation in place is the preferred manner of mitigating impacts to archaeological
sites. Section 15126.4, subd. (b)(3) of the CEQA Guidelines has been interpreted by the
California Court of Appeal to mean that “feasible preservation in place must be adopted to
mitigate impacts to historical resources of an archaeological nature unless the lead agency
determines that another form of mitigation is available and provides superior mitigation of
impacts.” Madera Oversight Coalition v. County of Madera (2011) 199 Cal.App.4th 48,

The Tribe would like to begin consultation within 30 days of your receipt of this letter. Please contact my office at (707) 566-2288 or by email at bmcquillen@gratonrancheria.com as the person who will serve as the lead contact on behalf of the Tribe.

Sincerely,

[Signature]

Buffy McQuillen, THPO/NAGPRA
Federated Indians of Graton Rancheria
August 29, 2016

Amber Morris, Branch Chief
Medical Cannabis Cultivation Program
Division of Inspection Services
1220 N Street
Sacramento, CA 95814

Re:

Dear Ms. Morris:

Thank you for your letter dated August 24, 2016 regarding the proposed Medical Cannabis Cultivation Licensing Program Environmental Impact Report ("EIR"). The Elk Valley Rancheria, California, a federally recognized Indian tribe (the "Tribe"), understands that the California Department of Food and Agriculture ("CDFA") proposes to prepare a programmatic EIR in response to the Medical Cannabis Regulation and Safety Act (the "Act").

The Tribe understands that the Act provides a structure for regulation and enforcement of medical cannabis production and use in California. The Tribe has a keen interest in the CDFA’s programmatic EIR and the related regulations to implement the Act.

The Tribe requests that it be listed as an interested party with regard to the EIR and that the Tribe receive notice of any activities related to the development, review and approval of the EIR.

The Tribe is interested in consulting with the CDFA regarding this issue, including the potential effects of the Medical Cannabis Cultivation Program, tribal sovereignty issues, and protection of tribal cultural resources. Please contact the Tribe’s General Counsel, Bradley Bledsoe Downes, at 949.500.4092 to discuss a mutually convenient date to consult regarding this important matter.

Sincerely,

Dale A. Miller
Chairman
September 12, 2016

Amber Morris
Department of Food and Agriculture
1220 N Street, Room 400
Sacramento, CA 95814

RE: SCH#2016082077, Medical Cannabis Cultivation Program, Statewide

Dear Ms. Morris:

The Native American Heritage Commission has received the Notice of Preparation (NOP) for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code § 21000 et seq.), specifically Public Resources Code section 21084.1, states that a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, § 15064.5 (b) (CEQA Guidelines Section 15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an environmental impact report (EIR) shall be prepared. (Pub. Resources Code § 21080 (d); Cal. Code Regs., tit. 14, § 15064 subd.(a)(1) (CEQA Guidelines § 15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources with the area of project effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, “tribal cultural resources” (Pub. Resources Code § 21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code § 21084.3 (a)). AB 52 applies to any project for which a notice of preparation or a notice of negative declaration or mitigated negative declaration is filed on or after July 1, 2015. If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). Both SB 18 and AB 52 have tribal consultation requirements. If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 39 C.F.R. § 800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC’s recommendations for conducting cultural resources assessments. Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public.
agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

a. A brief description of the project.
b. The lead agency contact information.
c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code § 21080.3.1 (d)).
d. A “California Native American tribe” is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code § 21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe’s Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code § 21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or environmental impact report. (Pub. Resources Code § 21080.3.1(b)).

a. For purposes of AB 52, “consultation shall have the same meaning as provided in Gov. Code § 65352.4 (SB 18). (Pub. Resources Code § 21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

a. Alternatives to the project.
b. Recommended mitigation measures.
c. Significant effects. (Pub. Resources Code § 21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

a. Type of environmental review necessary.
b. Significance of the tribal cultural resources.
c. Significance of the project’s impacts on tribal cultural resources.
d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code § 21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code sections 6254 (r) and 6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code § 21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code section 21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code § 21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code § 21080.3.2 (b)).
8. **Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document:** Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code section 21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code section 21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code § 21082.3 (a)).

9. **Required Consideration of Feasible Mitigation:** If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code section 21084.3 (b). (Pub. Resources Code § 21082.3 (e)).

10. **Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:**
   a. Avoidance and preservation of the resources in place, including, but not limited to:
      i. Planning and construction to avoid the resources and protect the cultural and natural context.
      ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
   b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
      i. Protecting the cultural character and integrity of the resource.
      ii. Protecting the traditional use of the resource.
      iii. Protecting the confidentiality of the resource.
   c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
   d. Protecting the resource. (Pub. Resource Code § 21084.3 (b)).
   e. Please note that a federally recognized California Native American tribe or a nonfederally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code § 815.3 (c)).
   f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code § 5097.991).

11. **Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource:** An environmental impact report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
   a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code sections 21080.3.1 and 21080.3.2 and concluded pursuant to Public Resources Code section 21080.3.2.
   b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
   c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code section 21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code § 21082.3 (d)).

The NAHC’s PowerPoint presentation titled, “Tribal Consultation Under AB 52: Requirements and Best Practices” may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

**SB 18**

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code § 65352.3). Local governments should consult the Governor’s Office of Planning and Research’s “Tribal Consultation Guidelines,” which can be found online at: https://www.opr.ca.gov/docs/09_14_06_Updated_Guidelines_922.pdf
Some of SB 18’s provisions include:

1. **Tribal Consultation:** If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a “Tribal Consultation List.” If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe. (Gov. Code § 65352.3 (a)(2)).

2. **No Statutory Time Limit on SB 18 Tribal Consultation:** There is no statutory time limit on SB 18 tribal consultation.

3. **Confidentiality:** Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code section 65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code sections 5097.9 and 5097.993 that are within the city’s or county's jurisdiction. (Gov. Code § 65352.3 (b)).

4. **Conclusion of SB 18 Tribal Consultation:** Consultation should be concluded at the point in which:
   a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
   b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and “Sacred Lands File” searches from the NAHC. The request forms can be found online at:

http://nahc.ca.gov/resources/forms/

**NAHC Recommendations for Cultural Resources Assessments**

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. **Contact the appropriate regional California Historical Research Information System (CHRIS) Center** (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
   a. If part or all of the APE has been previously surveyed for cultural resources.
   b. If any known cultural resources have been already been recorded on or adjacent to the APE.
   c. If the probability is low, moderate, or high that cultural resources are located in the APE.
   d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
   a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
   b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. **Contact the NAHC for:**
   a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project’s APE.
b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
   a. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, section 15064.5(f) (CEQA Guidelines section 15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
   b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
   c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code section 7050.5, Public Resources Code section 5097.98, and Cal. Code Regs., tit. 14, section 15064.5, subdivisions (d) and (e) (CEQA Guidelines section 15064.5, subs. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions, please contact me at my email address: sharaya.souza@nahc.ca.gov.

Sincerely,

Sharaya Souza
Staff Services Analyst
cc: State Clearinghouse
Dear Ms. Morris:

I have received your letter dated August 24, 2016 regarding Ca. Dept. of Food and Agriculture Medical Cannabis Cultivation Licensing Program EIR.

Any activity that will disturb soil, wetlands, springs, sensitive habitats, or any cultural landscape should be not allowed until there is a full assessment of impacts. Upon completion of the assessment, each project could be discussed and further considered.

Thank you,

Mona Olivas Tucker, Chairwoman  
yak tił̱u tił̱u - Northern Chumash Tribe
July 27, 2017

California Department of Food and Agriculture
Attn: Amber Morris
CalCannabis Cultivation Licensing
1220 N Street, Suite 400
Sacramento, CA 95814

Re: NOP for the CalCannabis Cultivation Licensing Program

Saleki Atsa,

Ohlone/Costanoan-Esselen Nation is an historically documented previously recognized tribe. OCEN is the legal tribal government representative for over 600 enrolled members of Esselen, Carmelena, Monterey Band, Rumsen, Chalon, Soledad Mission, San Carlos Mission and/or Costanoan Mission Indian descent of Monterey County. Though other indigenous people may have lived in the area, the area is the indigenous homeland of our people. Included with this letter please find a territorial map by Taylor 1856; Levy 1973; and Milliken 1990, identifying Tribal areas.

Ohlone/Costanoan-Esselen Nation objects to all excavation in known cultural lands, even when they are described as previously disturbed, and of no significant archaeological value. Please be advised that it is our first priority that our ancestor’s remains be protected and undisturbed. We desire that all sacred burial items be left with our ancestors on site or as culturally determined by OCEN. All cultural items returned to Ohlone/Costanoan-Esselen Nation. We ask for the respect that is afforded all of our current day deceased, by no other word these burial sites are cemeteries, respect for our ancestors as you would expect respect for your deceased family members in today’s cemeteries. Our definition of respect is no disturbance.

OCEN’s Tribal leadership desires to be provided with archaeological reports/surveys, including subsurface testing, and presence/absence testing. OCEN request to be included in mitigation and recovery programs, reburial of any of our ancestral remains, placement of all cultural items, and that a Native American Monitor of Ohlone/Costanoan-Esselen Nation, approved by the OCEN Tribal Council be used within our aboriginal territory.

OCEN requests consultation on all projects affecting our aboriginal homelands, which include all ground disturbance (not limited to ground disturbance). It is our request to consult on projects to establish a procedure, 1. provide OCEN with all reports, 2. establish procedure for disturbance of unknown sites, 3. procedure for known sites, etc.

Please feel free to contact me at (408) 629-5189 and we can make an appointment to begin the consultation process. Nimasianexelpasaleki. Thank you for your attention to this matter.

Sincerely and Respectfully Yours,

Louise J. Miranda Ramirez, Chairperson
Ohlone/Costanoan-Esselen Nation
(408) 629-5189

Cc: OCEN Tribal Council
May 31, 2017

California Department of Food and Agriculture
Attn: Amber Morris
CaliCannabis Cultivation Licensing
1220 N Street, Suite 400
Sacramento, CA 95814

Re: Revised NOP for the CalCannabis cultivation Licensing program

Saleki Atsa,

Ohlone/Costanoan-Eselen Nation is an historically documented previously recognized tribe. OCEN is the legal tribal government representative for over 600 enrolled members of Esselen, Carmeleno, Monterey Band, Rumsen, Chalon, Soledad Mission, San Carlos Mission and/or Costanoan Mission Indian descent of Monterey County. Though other indigenous people may have lived in the area, the area is the indigenous homeland of our people. Included with this letter please find a territorial map by Taylor 1856; Levy 1973; and Milliken 1990, indentifying Tribal areas.

Ohlone/Costanoan-Eselen Nation objects to all excavation in known cultural lands, even when they are described as previously disturbed, and of no significant archaeological value. Please be advised that it is our first priority that our ancestor’s remains be protected and undisturbed. We desire that all sacred burial items be left with our ancestors on site or as culturally determined by OCEN. All cultural items returned to Ohlone/Costanoan-Eselen Nation. We ask for the respect that is afforded all of our current day deceased, by no other word these burial sites are cemeteries, respect for our ancestors as you would expect respect for your deceased family members in today’s cemeteries. Our definition of respect is no disturbance.

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OCEN requests consultation on all projects affecting our aboriginal homelands, which include all ground disturbance (not limited to ground disturbance). It is our request to consult on projects to establish a procedure, 1. provide OCEN with all reports, 2. establish procedure for disturbance of unknown sites, 3. procedure for known sites, etc.

Please feel free to contact me at (408) 629-5189 and we can make an appointment to begin the consultation process. Nimasianexelpasaleki. Thank you for your attention to this matter.

Sincerely and Respectfully Yours,

Louise J. Miranda Ramirez, Chairperson
Ohlone/Costanoan-Eselen Nation
(408) 629-5189

Cc: OCEN Tribal Council
Distribution of Ohlone/Costanoan-Essemble Nation Tribal Rancherias, Districts, Landgrants and Historic Landmarks

OCEN DIRECT LINEAL DESCENT

Suffixes after the district names represent the following groups:

- C = Costanoan/Ohlone
- C/E = Costanoan/Ohlone/Essemble
- E = Essemble
- S = Salinan

Map after Taylor 1856; Levy 1973; Hester 1978; Milliken 1990

Figure 2:
Saleki Itsu,

Attached please find OCEN's response for the Medical Cannabis Cultivation

Louise J. Miranda Ramirez  
Tribal Chairwoman  
Ohlone/Costanoan-Esselen Nation

www.ohlonecostanoanestheselennation.org
September 26, 2016

Michael Stevenson
Horizon Water and Environment, LLC
180 Grand Avenue, suite 1405
Oakland, CA 94612

California Department of Food and Agriculture
Attn: Amber Morris
Medical Cannabis Cultivation Comments
1220 N. Street, Suite 400
Sacramento, CA 95814

mccp.peir@cdfa.ca.gov re: Medical Cannabis Cultivation Program Comments

Saleki Atsa,

Ohlone/Costanoan-Esselen Nation is an historically documented previously recognized tribe. OCEN is the legal tribal government representative for over 600 enrolled members of Esselen, Carmeleno, Monterey Band, Rumsen, Chalon, Soledad Mission, San Carlos Mission and/or Costanoan Mission Indian descent of Monterey County. Though other indigenous people may have lived in the area, the area is the indigenous homeland of our people. Included with this letter please find a territorial map by Taylor 1856; Levy 1973; and Milliken 1990, indentifying Tribal areas.

**Ohlone/Costanoan-Esselen Nation objects to all excavation in known cultural lands, even when they are described as previously disturbed, and of no significant archaeological value.** Please be advised that it is our first priority that our ancestor’s remains be protected and undisturbed. We desire that all sacred burial items be left with our ancestors on site or as culturally determined by OCEN. All cultural items returned to Ohlone/Costanoan-Esselen Nation. We ask for the respect that is afforded all of our current day deceased, by no other word these burial sites are cemeteries, respect for our ancestors as you would expect respect for your deceased family members in today’s cemeteries. **Our definition of respect is no disturbance.**

OCEN’s Tribal leadership desires to be provided with archaeological reports/surveys, including subsurface testing, and presence/absence testing. OCEN request to be included in mitigation and recovery programs, reburial of any of our ancestral remains, placement of all cultural items, and that a Native American Monitor of Ohlone/Costanoan-Esselen Nation, approved by the OCEN Tribal Council be used within our aboriginal territory.

We request consultation on projects affecting our aboriginal homelands, which include all ground disturbance. We look forward to hearing more information about this project; please feel free to contact me at (408) 629-5189. Nimasianxelpasaleki. Thank you for your attention to this matter.

Sincerely and Respectfully Yours,

Louise J. Miranda Ramirez, Chairperson
Ohlone/Costanoan-Esselen Nation
(408) 629-5189

Cc: OCEN Tribal Council
August 24, 2016

Louise Miranda-Ramirez, Chairperson
Ohlone/Costanoan-Eselen Nation
P.O. Box 1301
Monterey, CA 93942

Subject: California Department of Food and Agriculture Medical Cannabis Cultivation Licensing Program
Environmental Impact Report

Dear Honorable Louise Miranda-Ramirez, Chairperson:

The California Department of Food and Agriculture (CDFA) is preparing to file a Notice of Preparation (NOP) of a Programmatic Environmental Impact Report (PEIR) for the Medical Cannabis Cultivation Program (MCCP), as required by California Code of Regulations title 14, section 15000 et seq. This PEIR is being prepared in response to the Medical Cannabis Regulation and Safety Act (Act) that was signed by Governor Brown in 2015. The Act outlines a new structure for regulation and enforcement of medical cannabis production and use in California. The Act addresses issues such as cultivation, manufacture of cannabis products, quality control and inspection, distribution, dispensaries, and prescriptions for patients. The Act also establishes new licensing procedures for various aspects of the production process.

CDFA is tasked with licensing medical cannabis cultivation, as well as establishing a "track and trace" system, which involves development of a unique identifier for each plant, a reporting system, fees, and a method to document the transport path of plants from cultivation to sale of the medicinal cannabis product. The cultivation licensing and track and trace system are collectively considered the MCCP or Proposed Program. CDFA is preparing a PEIR to provide the public, responsible agencies, trustee agencies, and permitting agencies with information about the potential environmental effects associated with the adoption and implementation of these statewide regulations. The PEIR will be prepared by CDFA in accordance with the provisions of the California Environmental Quality Act (CEQA) and the State CEQA Guidelines.

The overall purpose of CDFA’s MCCP is to establish a regulatory licensing program that would ensure that medical cannabis cultivation operations would be performed in a manner that protects the environment, cannabis cultivation workers, and the general public from the individual and cumulative effects of these operations, and fully complies with all applicable laws. An additional purpose of MCCP is to establish a track and trace program to ensure the movement of medical cannabis items are tracked throughout the production chain.

The regulations will be developed to achieve the following objectives:

- Establish minimum requirements for indoor, outdoor, and mixed light medical cannabis cultivation operations that must be achieved by cultivators in order to obtain a cultivation license from CDFA;
- Establish a limit on the quantity of licenses issued for the Type 3, 3A, and 3B cultivation categories;
- Ensure that individual and cumulative effects of water diversion and discharge associated with cultivation do not affect the instream flows needed for fish spawning, migration, and rearing, and the flows needed to maintain natural flow variability;
- Ensure that cultivation will not negatively impact springs, riparian wetlands, and aquatic habitats;
Transmittal

<table>
<thead>
<tr>
<th>Date:</th>
<th>August 31, 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>To:</td>
<td>Interested Parties</td>
</tr>
<tr>
<td>From:</td>
<td>Michael Stevenson</td>
</tr>
<tr>
<td></td>
<td>Horizon Water and Environment, LLC</td>
</tr>
<tr>
<td></td>
<td>180 Grand Avenue, Suite 1405</td>
</tr>
<tr>
<td></td>
<td>Oakland, CA 94612</td>
</tr>
<tr>
<td>Subject:</td>
<td>NOP for the Medical Cannabis Cultivation Program</td>
</tr>
<tr>
<td>Method of Transmission:</td>
<td>Mail</td>
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<tr>
<td>Purpose of Transmission:</td>
<td>For your review</td>
</tr>
<tr>
<td>Items Being Transmitted:</td>
<td>1</td>
</tr>
<tr>
<td>Description:</td>
<td>Notice of Preparation (NOP)</td>
</tr>
</tbody>
</table>

Enclosed is the NOP for the California Department of Food and Agriculture’s (CDFA’s) Medical Cannabis Cultivation Program, and the public scoping period is now underway. The document is being circulated for public scoping from September 1, 2016 to September 30, 2016. CDFA will be hosting eight public meetings during the scoping period; for details, please refer to the enclosed NOP.

Written comments should be sent to:

California Department of Food and Agriculture  
Attn: Amber Morris  
Medical Cannabis Cultivation Comments  
1220 N Street, Suite 400  
Sacramento, CA 95814

Or via email to mccp.peir@cdfa.ca.gov  
Subject Line: Medical Cannabis Cultivation Program Comments

We look forward to your attendance at one of the meetings and the receipt of your comments on the Program.
Notice of Preparation

To: Responsible, Federal and Trustee Agencies

(Agency)

(Address)

From: California Department of Food and Agriculture

1220 N Street, Suite 400
Sacramento, CA 95814

Subject: Notice of Preparation of a Draft Subsequent Environmental Impact Report

The California Department of Food and Agriculture (CDFA) is the lead agency and is preparing a Program Environmental Impact Report (PEIR) for the project identified below. CDFA would like input from your agency and interested members of the public regarding the scope and content of the environmental information that is germane to your agency’s statutory responsibilities in connection with the proposed project. Your agency may need to use the PEIR prepared by the CDFA when considering any permit or other approval related to the proposed project.

The project description, location, and potential environmental effects are contained in the attached materials. A copy of the initial study □ is ☑ is not attached.

Because of the time limits mandated by state law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please send your response to Amber Morris at the address above. Please include your name or the name of a contact person in your agency.

Project Title: Medical Cannabis Cultivation Program

Project Applicant, if any: n/a

Date: September 1, 2016

Signature:

Title: Branch Chief

Telephone: (916) 263-0801

Email: mccp.peir@cdfa.ca.gov

ensure the movement of medical marijuana items are tracked throughout the production chain.

2.3 Program Objectives

The regulations will be developed to achieve the following objectives:

- Establish minimum requirements for indoor, outdoor, and mixed light medical cannabis cultivation operations that must be achieved by cultivators in order to obtain a cultivation license from CDFA;
- Establish a limit on the quantity of licenses issued for the Type 3, 3A, and 3B cultivation categories;
- Ensure that individual and cumulative effects of water diversion and discharge associated with cultivation do not affect the instream flows needed for fish spawning, migration, and rearing, and the flows needed to maintain natural flow variability;
- Ensure that cultivation will not negatively impact springs, riparian wetlands, and aquatic habitats;
- Require that cannabis cultivation by licensees is conducted in accordance with state and local laws related to land conversion, grading, electricity usage, water usage, water quality, woodland and riparian habitat protection, agricultural discharges, and similar matters;
- Establish procedures for the issuance and revocation of unique identifiers for activities associated with a cannabis cultivation license;
- Prescribe standards for the reporting of information as necessary related to unique identifiers;
- Establish a scale of application, licensing, and renewal fees, based upon the cost of administering and enforcing the Program; and
- Develop a cultivation checklist tool that can be used by CDFA, other agencies, and local governments to evaluate environmental impacts of cannabis cultivation license programs.

2.4 Preliminary Regulations

A table of contents and an outline of CDFA’s preliminary regulations are attached to this notice.

3. CEQA Process

3.1 Notice of Preparation

This Notice of Preparation (NOP) presents general background information on the Program, the scoping and larger CEQA process, and the environmental issues to be addressed in the PEIR. CDFA has prepared this NOP pursuant to CEQA Guidelines section 15082.
3.3 Draft PEIR

The primary purpose of a PEIR is to analyze and disclose the reasonably foreseeable direct and indirect environmental impacts that may occur as a result of the Program. The Draft PEIR, as informed by public and agency input through the scoping period, will analyze and disclose the potentially significant environmental impacts associated with the Program and, where any such impacts are significant, identify potentially feasible mitigation measures and alternatives that substantially lessen or avoid such effects will be identified and discussed.

Below is a preliminary list of potential environmental issues to be addressed in detail in the PEIR. The analysis in the Draft PEIR ultimately will determine whether these impacts are reasonably foreseeable, whether they are significant based on identified thresholds of significance, and whether they can be avoided or substantially lessened by potentially feasible mitigation measures and alternatives.

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation and Traffic
- Tribal Cultural Resources
- Utilities and Service Systems
- Cumulative Impacts
- Irreversible Impacts

3.4 Public Review of the Draft PEIR

Once the Draft PEIR is completed, it will undergo public review for a minimum of 45 days. CDFA is also planning to hold public workshops during this public review period. The date, time, and exact location of the public workshops will be made available prior to the events.

3.5 Final PEIR

Written and oral comments received in response to the Draft PEIR will be addressed in a Response to Comments document which together with the Draft PEIR will constitute the Final PEIR. The Final PEIR, in turn, will inform CDFA’s exercise of discretion as a lead agency under CEQA in deciding whether to approve the Program.
## Article 1. Definitions

$§ 8000.$ Definitions........................................................................................................... \(\times\)

## Article 2. Applications for Cultivation Licenses

$§ XXXX.$ General Application Information for Cultivation Licenses \(\times\)

$§ XXXX.$ Application Requirements for Cultivation Licenses \(\times\)

$§ XXXX.$ Incomplete Applications................................................................................. \(\times\)

$§ XXXX.$ Application Processing Fee Schedule........................................................ \(\times\)

$§ XXXX.$ Application Payment Method........................................................................ \(\times\)

## Article 3. Licensing

$§ XXXX.$ License Types............................................................................................... \(\times\)

$§ XXXX.$ License Allowances and Constraints.......................................................... \(\times\)

$§ XXXX.$ License Denial and Appeal Process............................................................. \(\times\)

$§ XXXX.$ Petition of License Denial............................................................................... \(\times\)

$§ XXXX.$ License Renewal........................................................................................... \(\times\)

$§ XXXX.$ License Fee Schedule................................................................................... \(\times\)

## Article 4. Cultivator Requirements

$§ XXXX.$ Requirements for All License Types......................................................... \(\times\)

$§ XXXX.$ Requirements for Indoor License Types...................................................... \(\times\)

$§ XXXX.$ Requirements for Mixed Light License Types............................................. \(\times\)

$§ XXXX.$ Requirements for Outdoor License Types.................................................. \(\times\)

$§ XXXX.$ Requirements for Cannabis Nurseries......................................................... \(\times\)

## Article 5. Track and Trace Requirements

$§ XXXX.$ Unique Identifiers...................................................................................... \(\times\)

$§ XXXX.$ Tracking System.......................................................................................... \(\times\)

$§ XXXX.$ Reporting Requirements.............................................................................. \(\times\)

## Article 6. Inspections

$§ XXXX.$ Inspections Requirements........................................................................... \(\times\)

## Article 7. Enforcement

$§ XXXX.$ License Violations....................................................................................... \(\times\)

$§ XXXX.$ Administrative Hold Procedure................................................................... \(\times\)

$§ XXXX.$ Voluntary Surrender of Cannabis or Cannabis Product............................ \(\times\)

$§ XXXX.$ Completed Investigations............................................................................ \(\times\)

$§ XXXX.$ Minor, Moderate, or Serious Violations....................................................... \(\times\)

$§ XXXX.$ Appeal Process............................................................................................ \(\times\)

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*Cannabis is a Schedule I drug pursuant to the Controlled Substance Act 21 U.S.C. § 812. Activity related to cannabis use is subject to federal prosecution, regardless of the protections provided by State law.*
Appendix G

- **Incomplete Applications** – Inform applicants if application is incomplete and provide a timeframe to submit missing information.

- **Application Processing Fee Schedule** – Provide fee requirements when submitting applications. This fee will be non-refundable and will pay for resources necessary to process applications.

- **Application Pay Method** – Specify the accepted method of payments and location(s) where payments can be made.

**LICENSING:**
**License Types:** Specifies license types as follows:

<table>
<thead>
<tr>
<th>Category</th>
<th>Outdoor (no artificial light)</th>
<th>Indoor (exclusively artificial light)</th>
<th>Mixed-light (combo of natural &amp; supplemental artificial light)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialty Cultivator</td>
<td>Type 1 Up to 5,000 sq ft, or up to 50 mature plants on noncontiguous plots</td>
<td>Type 1a Up to 5,000 sq ft</td>
<td>Type 1b Up to 5,000 sq ft</td>
</tr>
<tr>
<td>Small Cultivator</td>
<td>Type 2 5,001 - 10,000 sq ft</td>
<td>Type 2a 5,001 - 10,000 sq ft</td>
<td>Type 2b 5,001 - 10,000 sq ft</td>
</tr>
<tr>
<td>Cultivator</td>
<td>Type 3 10,001 sq ft to one acre</td>
<td>Type 3a 10,001 - 22,000 sq ft</td>
<td>Type 3b 10,001 - 22,000 sq ft</td>
</tr>
<tr>
<td>Nursery</td>
<td>Type 4 Up to one acre</td>
<td>Type 4 Up to one acre</td>
<td>Type 4 Up to one acre</td>
</tr>
</tbody>
</table>

- **License Allowances and Constraints** –
  - Clarifies allowable license combinations.
  - Multiple cultivation licenses may be obtained by one applicant, but total canopy cannot exceed four acres.

- **License Denial** – Failure to comply with application requirements will result in MCCP denying the license.

- **Petition of License Denial** – Procedure by which the decision to deny the license can be reviewed; must file the petition within 30 days.

- **License Renewal** – Cannabis cultivation licenses must be renewed annually. Renewal applications must be received 100 days prior to expiration of license.

- **License Fee Schedule** – Fees will be based on license type, fees have not yet been determined.

**CULTIVATION REQUIREMENTS:**

- **Requirements for All License Types** –
  - Environmental Management Measures and Best Management Practices: Any relevant environmental management measures and best management practice requirements included in the regulations, or determined by the environmental impact report (EIR), shall be included in a license for cultivation.
  - Water: Requires compliance with applicable principles, guidelines and requirements established by the State Water Resources Control Board.
  - Waste Discharges: Requires compliance with applicable general orders issued by the Regional Water Quality Control Boards or State Water Resources Control Board, or in regions where no general order exists, individual Waste Discharge Requirements from the applicable Regional Water Quality Control Board.
cannabis or cannabis products surrendered will be destroyed. Does not waive a licensee’s right to a hearing.

- **Completed Investigations** – Upon completing an investigation, CDFA shall determine if the violation occurred and if so, what the appropriate penalty should be.

- **Minor, Moderate, Serious violations** – The MCCP will provide for penalties to be assessed based on the severity of a violation of license requirements or other regulatory provisions. Penalties will range from fines to license suspension or revocation.

- **Appeal Process** – Licensees will have 30 days to appeal any violation issued. Appeals shall be submitted to CDFA’s Office of Hearings and Appeals. Licensees may request a formal hearing. Formal hearings will be conducted by a hearing officer designated by CDFA. A decision shall be issued within 14 days after the conclusion of the hearing.
Another AB 52 response.

From: Cheyenne Sanders [mailto:csanders@yuroktribe.nsn.us]
Sent: Thursday, May 11, 2017 11:26 AM
To: CDFA CalCannabis PEIR@CDFA
Cc: Frankie Myers; Rosie Clayburn; External, NWrigh@DOT; Peggy O’Neill; Amy Cordalis; Daniel Cordalis; External, TIpina@DOT; Koiya Tuttle; Troy Ralstin; Tim Hayden
Subject: Yurok Tribe Accepts Invitation to Consult

Aiy-ye-kwee’ Ms. Morris,

The Yurok Tribe is in receipt of your letter dated May 2, 2017 inviting the Yurok Tribe to engage in consultation regarding the revised NOP of the PEIR for CDFA’s Non-Medical Cannabis Cultivation Program.

The Yurok Tribe desires to engage in this consultation process. Please let us know your availability of dates, times, and locations for a potential government-to-government meeting so that we may confirm with Yurok Tribal Council. Due to Council’s very busy schedule and upcoming cultural events, we request providing several options for Council’s consideration over the next couple of months. Council’s strong preference is to have the government-to-government meeting in the Klamath, CA area.

As a final note, please update your records to reflect that our current Chairperson is Thomas P. O’Rourke, Sr.

Thank you,

Cheyenne

Cheyenne Sanders | Deputy General Counsel
Yurok Tribe Office of the Tribal Attorney
P.O. Box 1027
Klamath, CA 95548
Tel: (707) 482-1350 ext. 1397 | Cell: (707) 954-1654 | Fax: (707) 482-1363
Email: csanders@yuroktribe.nsn.us

Privileged and Confidential Communication This message is intended for only the individual(s) to whom it was addressed and may contain privileged and confidential communications. If the recipient is not the intended recipient you are hereby notified that any distribution, dissemination, copying or storing of this message by any means is strictly prohibited. You are further notified that this message should be immediately deleted.
Amber;

The Stewarts Point Rancheria Kashia Band of Pomo Indians would request Consultation on any Potential Effects of the MCCP on Tribal Cultural Resources.

Reno K. Franklin is the Tribal Chairman, so he will be the Lead Contact person. Unless he designates it too someone else.

You can send a letter to The Chairman at the same address.

Thank you,

Lorin W. Smith, Jr.
Tribal Historic Preservation Officer
1420 Guerneville Road, Suite 1
Santa Rosa CA 95403
Email: lorin@stewartspoint.org
Office: 707-591-0580 x 105
Cell: 707-321-7064
Notice of Perparation for PEIR for Medical Cannabis

Tom [tom@wiyot.us]

To: CDFA CalCannabis PEIR@CDFA  
Cc: 'Janet Eidsness' [jpeidsness@yahoo.com]; 'Janet Eidsness' [jeidsness@bluelakerancheria-nsn.gov]; erikacooper@brb-nsn.gov  

Retention Policy: Enforced: Inbox 90 Day PermDelete (90 Days) Expires: 8/1/2017

Dear Amber,

Thank you for the Notice of Preparation (NOP) for the Program Environmental Impact Report (PEIR) for the Medical Cannabis Cultivation Program (MCCP).

As a tribe based in Humboldt County, the Tribal Cultural Resources of the Wiyot Tribe have a strong possibility of being impacted by cannabis cultivation. I therefore accept your invitation to consult on this project. My contact information is below, and I look forward to hearing from you about next steps.

Thank you,

Tom

Dr. Thomas Torma  
Lhatsik Wadaqoumilh (Cultural Director)  
Wiyot Tribe  
1000 Wiyot Drive  
Loleta, CA 95551  
tel. 707.733.5055 ext. 107  
ce. 406.850.2220  
fax 707.733.5601  
http://wiyot.us/cultural

This communication, including any attachments, may contain privileged or confidential information intended for a specific individual and purpose, and is protected by law. If you are not the intended recipient, you should delete this communication and/or shred the materials and any attachments and are hereby notified that any disclosure, copying, or distribution of this communication, or the taking of any action based on it, is strictly prohibited. Hu’ (thank you).
Hello all,

I am looping in Janis, our cultural lead, on this. She can assist with tribal interactions/consultations.

She has also drafted a response letter to the other requests received so far, per our conversation last week. I need to review that and get it over to you.

Best,
Michael

Michael Stevenson, M.S.
Principal
Horizon Water and Environment, LLC
180 Grand Avenue, Suite 1405; Oakland, CA 94612
P.O. Box 2727; Oakland CA, 94602
michael@horizonh2o.com
510-986-1852
www.horizonh2o.com

Amber,

Thank you for sending this over. I was working on a response to Tom to follow up on our conversation from Friday. I assume that we are receptive to a joint conversation? If so, I will respond to the e-mail below and the one you previously
sent from Janet Eidsness and let them know that we would like a joint meeting as well.

Crystal

Crystal D’Souza
Staff Counsel
California Dept. of Food and Agriculture.

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From: Morris, Amber@CDFA
Sent: Tuesday, September 06, 2016 3:20 PM
To: Dias, Michele@CDFA; D’Souza, Crystal@CDFA
Cc: Michael Stevenson
Subject: FW: Wiyot THPO Response to Medical Cannabis Cultivation Licensing Program

See below.

Amber

From: Tom [mailto:tom@wiyot.us]
Sent: Tuesday, September 06, 2016 3:19 PM
To: 'Janet Eidsness'; Morris, Amber@CDFA
Cc: erikacoooper@brb-nsn.gov; 'Janet Eidsness'; 'Lazar, Steve'
Subject: RE: Wiyot THPO Response to Medical Cannabis Cultivation Licensing Program

Amber,

I’ve spoken with Steve Lazar, who is handling the marijuana regulations for Humboldt County, as well as Janet and Erika from Blue Lake and Bear River Rancherias. As part of the consultation, would you be receptive to a joint meeting between the county and tribes from Humboldt County? At this point, we have at least three tribes that are interested, but we have not yet spoken to the other tribes. The Wiyot Tribe feels that Humboldt County has done an excellent job of working with the tribes, and we would like to extend that conversation to include CDFA.

Please let me know if you are interested in such a conversation.

Thank you,

Tom

From: Janet Eidsness [mailto:JEidsness@bluelakerancheria-nsn.gov]
Sent: Tuesday, September 06, 2016 1:38 PM
To: Tom amber.morris@cdfa.ca.gov
Cc: erikacoooper@brb-nsn.gov
Subject: RE: Wiyot THPO Response to Medical Cannabis Cultivation Licensing Program
Amber,

I also received the 8/24/16 notice and am in agreement with Wiyot THPO’s observations. Notably, Blue Lake Rancheria and other THPOs participated in development of Humboldt County’s medical marijuana cultivation ordinance to specifically address effects on Tribal Cultural Resources per AB 52/CEQA.

The Tribe wishes to be consulted as you move forward with developing program guidelines.

Regards,

Janet P. Eidsness, M.A.
Tribal Heritage Preservation Officer (THPO)
Blue Lake Rancheria
P.O. Box 428 (428 Chartin Road)
Blue Lake, CA 95525
Office (707) 668-5101 ext. 1037
Fax (707) 668-4272
jeidsness@bluelakerancheria-nsn.gov
cell (530) 623-0663 jpeidsness@yahoo.com

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Licensing Program. With Wiyot Tribe’s ancestral territory is based around Humboldt Bay, and the lower reaches of the Mad and Eel Rivers in Humboldt County. We have already seen a significant impact from the development of the medical marijuana program. Of particular concern is the potential impact of marijuana cultivation on archaeological sites. In particular, many previously illegal grow sites are on archaeologically sensitive areas, and new proposed sites are also trending towards archaeologically sensitive areas.

With this in mind, we accept your invitation for consultation. I have cc’d the THPOS from Blue Lake Rancheria and the Bear River Band of Rohnerville Rancheria, as they also have Wiyot ancestry and we try to coordinate our efforts to protect Wiyot ancestral territory.

I look forward to speaking with you.

Thank you,

Tom

Dr. Thomas Torma
Lhatsik Wadaqoumilh (Cultural Director)
Wiyot Tribe
1000 Wiyot Drive
Loleta, CA 95551
tel. 707.733.5055 ext. 107
cel. 406.850.2220
fax 707.733.5601
http://wiyot.us/cultural

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Hello Amber, I have been my understanding that Ag. is exempt from CEQA. If this particular project is not, then yes we will have concerns. We will need to be notified at the front end of all decision making process on location choices within our Cultural territory. Thank-you, Julie Tumamait, Tribal Chair, Barbaren/ Ventureno Band of Mission Indians.
September 30, 2016

Amber Morris, Brach Chief  
Medical Cannabis Cultivation Program  
California Department of Food and Agriculture, MCCP  
1220 N Street, Suite 400  
Sacramento CA 95814

RE: MEDICAL CANNABIS CULTIVATION PROGRAM (MCCP) REQUEST FOR CONSULTATION WITH RINCON BAND OF LUISEÑO INDIANS

Dear Ms. Morris:

Please find enclosed a cultural territory map of the Rincon Band of Luiseño Indians ("Rincon Band") in response to the MCCP letter regarding the development of regulations for licensing and track and trace of medical cannabis. The Rincon Band would appreciate a consultation regarding the MCCP potential for impacting tribal cultural resources. The Rincon Band designee for consultation is Mr. Vince Whipple, Rincon Cultural Resources Manager who can be reached at the address on this letterhead or by email at vwhipple@rincontribe.org. Thank you.

Sincerely,

RINCON BAND OF LUISEÑO INDIANS

DENISE TURNER WALSH  
Attorney General

enclosures
FYI – lots of tribal interest!

Michael Stevenson, M.S.
Principal
Horizon Water and Environment, LLC
180 Grand Avenue, Suite 1405; Oakland, CA 94612
P.O. Box 2727; Oakland CA, 94602
michael@horizonh2o.com
510-986-1852
www.horizonh2o.com

Amber

I am the general counsel for the Santa Rosa Band of Cahuilla Indians located in Riverside County; in light of the attached letter, the Tribe requests a consultation regarding any potential impacts of this project on tribal cultural resources; in addition, the Tribe would like to discuss with you its own cannabis cultivation program; please let us know when and where you would like to meet; the first and second weeks of October look pretty open on my calendar; if you have any questions or comments, you may contact me or the tribal administrator, Terry Hughes (email above); thanks

Thomas Weathers, Esq.
The Law Offices of Thomas Eagle Weathers, P.C.
Appendix G

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Amber Morris,
California Department of Food and Agriculture
1220 N St
Sacramento, CA 95814
Amber Morris,
California Department of Food and Agriculture
1220 N St
Sacramento, CA 95814
July 18, 2017

Amber Morris
California Department of Food and Agriculture
1220 N St
Sacramento, CA 95814

Subject: Notice of Availability of a Draft Program Environmental Impact Report Regarding the Proposed Statewide Regulations for the CalCannabis Cultivation Licensing Program

Dear Amber Morris,

Thank you for requesting information regarding the above referenced project. The United Auburn Indian Community (UAIC) of the Auburn Rancheria is comprised of Miwok and Southern Maidu (Nisenan) people whose tribal lands are within Placer County and whose service area includes El Dorado, Nevada, Placer, Sacramento, Sutter, and Yuba counties. The UAIC is concerned about development within its aboriginal territory that has potential to impact the lifeways, cultural sites, and landscapes that may be of sacred or ceremonial significance. We appreciate the opportunity to comment on this and other projects. The UAIC would like to consult on this project.

In order to ascertain whether the project could affect cultural resources that may be of importance to the UAIC, we would like to receive copies of any archaeological reports that are completed for the project. We also request copies of environmental documents for the proposed project so that we have the opportunity to comment on appropriate identification, assessment and mitigation related to cultural resources. We recommend UAIC tribal representatives observe and participate in all cultural resource surveys. If you are interested, the UAIC’s preservation department offers a mapping, records and literature search services program that has been shown to assist project proponents in complying with the necessary resource laws and choosing the appropriate mitigation measures or form of environmental documentation during the planning process.

The UAIC’s preservation committee would like to set up a meeting or site visit, and begin consulting on the proposed project. Based on the preservation committee’s identification of cultural resources in and around your project area, UAIC recommends that a tribal monitor be present during any ground disturbing activities. Thank you again for taking these matters into consideration, and for involving the UAIC early in the planning process. We look forward to reviewing the documents requested above and consulting on your project. Please contact Marcos Guerrero, Cultural Resources Manager, at (530) 883-2364 or by email at mguerrero@auburnrancheria.com if you have any questions.

Sincerely,

Gene Whitehouse,
Chairman

CC: Marcos Guerrero, CRM
May 22, 2017

Michael Stevenson
Horizon Water and Environment, LLC
180 Grand Ave, Suite 1405
Oakland, CA 94612

Subject: California Department of Food and Agriculture Medical and Non-Medical Cannabis Cultivation Licensing Program

Dear Michael Stevenson,

Thank you for requesting information regarding the above referenced project. The United Auburn Indian Community (UAIC) of the Auburn Rancheria is comprised of Miwok and Southern Maidu (Nisenan) people whose tribal lands are within Placer County and whose service area includes El Dorado, Nevada, Placer, Sacramento, Sutter, and Yuba counties. The UAIC is concerned about development within its aboriginal territory that has potential to impact the lifeways, cultural sites, and landscapes that may be of sacred or ceremonial significance. We appreciate the opportunity to comment on this and other projects. The UAIC would like to consult on this project.

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Sincerely,

Gene Whitehouse,
Chairman

CC: Marcos Guerrero, CRM
Should we set up a call to discuss the tribal requests and our strategy moving forward with them?

On Oct 6, 2016, at 2:26 PM, Morris, Amber@CDFA <amber.morris@cdfa.ca.gov> wrote:

There is another request from a tribe.

Amber

-----Original Message-----
From: Charles F Wood [mailto:chairman@cit-nsn.gov]
Sent: Saturday, September 24, 2016 2:04 PM
To: Morris, Amber@CDFA
Subject: MCCP

Ms. Morris,

The Chemehuevi Indian Tribal Council took action today to request consultation regarding any potential impacts of this project on Tribal resources.

As you requested and by directive of Tribal Council, I will be the designated lead contact person.

I look forward to meeting and an enlightening discussion.

With respect, I am

Charles F. Wood, Chairman
Chemehuevi Indian Tribe
Hi Tom and Janet,

I am following up on my e-mail below to schedule a consultation meeting with your tribes, Humboldt County, and the Department. Please let me know your availability in the coming weeks.

We would also like to know how you would like to conduct consultations. Would you prefer meeting in person, at least for our first meeting, or would you prefer meeting via a conference call or through videoconferencing? We are happy to accommodate whichever method you prefer.

Thank you and we look forward to hearing from you.

Crystal

Crystal D'Souza
Staff Counsel
California Dept. of Food and Agriculture.

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Hi Tom and Janet,

Amber forwarded your e-mails to me regarding AB-52 consultation under CEQA with respect to the Department's Medical Cannabis Cultivation Program (MCCP). I spoke to Tom on Friday and he indicated an interest in consultation with respect to archaeological sites and we discussed the benefits of including Humboldt County in the consultation.

The MCCP is receptive to a joint meeting with the county and tribes from Humboldt County. Please have other tribes contact us if they are interested so we can include them in the consultation and set up a meeting.

Also, Thursday next week (9/15/16) the MCCP will be in Eureka having our public scoping workshops for the MCCP Program Environmental Impact Report. If you would like to attend, the meeting will be from 4p.m. to 7p.m. at the Red Lion th
Hotel; 1929 4 Street; Eureka, CA 95501. Details about the MCCP program and additional public scoping workshops throughout the state can be found at our website at www.cdfa.ca.gov/is/mccp.

Thank you,

Crystal

Crystal D'Souza
Staff Counsel
California Dept. of Food and Agriculture.

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From: Tom [mailto:tom@wiyot.us]
Sent: Tuesday, September 06, 2016 3:19 PM
To: 'Janet Eidsness'; Morris, Amber@CDFA
Cc: erikacooper@brb-nsn.gov; 'Janet Eidsness'; 'Lazar, Steve'
Subject: RE: Wiyot THPO Response to Medical Cannabis Cultivation Licensing Program

Amber,

I’ve spoken with Steve Lazar, who is handling the marijuana regulations for Humboldt County, as well as Janet and Erika from Blue Lake and Bear River Rancherias. As part of the consultation, would you be receptive to a joint meeting between the county and tribes from Humboldt County? At this point, we have at least three tribes that are interested, but we have not yet spoken to the other tribes. The Wiyot Tribe feels that Humboldt County has done an excellent job of working with the tribes, and we would like to extend that conversation to include CDFA.

Please let me know if you are interested in such a conversation.

Thank you,

Tom

From: Janet Eidsness [mailto:J.Eidsness@bluelakerancheria-nsn.gov]
Sent: Tuesday, September 06, 2016 1:38 PM
To: Tom; amber.morris@cdfa.ca.gov
Cc: erikacooper@brb-nsn.gov
Subject: RE: Wiyot THPO Response to Medical Cannabis Cultivation Licensing Program

Amber,

I also received the 8/24/16 notice and am in agreement with Wiyot THPO’s observations. Notably, Blue Lake Rancheria and other THPOs participated in development of Humboldt County’s medical marijuana cultivation ordinance to specifically address effects on Tribal Cultural Resources per AB 52/CEQA.
The Tribe wishes to be consulted as you move forward with developing program guidelines.

Regards,

Janet P. Eidsness, M.A.
Tribal Heritage Preservation Officer (THPO)
Blue Lake Rancheria
P.O. Box 428 (428 Chartin Road)
Blue Lake, CA 95525
Office (707) 668-5101 ext. 1037
Fax (707) 668-4272
jeidsness@bluelakerancheria-nsn.gov
cell (530) 623-0663  jpeidsness@yahoo.com

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From: Tom [mailto:tom@wiyot.us]
Sent: Thursday, September 01, 2016 12:20 PM
To: amber.morris@cdfa.ca.gov
Cc: erikacooper@brb-nsn.gov; 'Janet Eidsness'; Janet Eidsness
Subject: Wiyot THPO Response to Medical Cannabis Cultivation Licensing Program

Dear Amber,

Thank you for your letter, dated August 24, 2016, regarding Medical Cannabis Cultivation Licensing Program. With Wiyot Tribe’s ancestral territory is based around Humboldt Bay, and the lower reaches of the Mad and Eel Rivers in Humboldt County. We have already seen a significant impact from the development of the medical marijuana program. Of particular concern is the potential impact of marijuana cultivation on archaeological sites. In particular, many previously illegal grow sites are on archaeologically sensitive areas, and new proposed sites are also trending towards archaeologically sensitive areas.
With this in mind, we accept your invitation for consultation. I have cc’d the THPOS from Blue Lake Rancheria and the Bear River Band of Rohnerville Rancheria, as they also have Wiyot ancestry and we try to coordinate our efforts to protect Wiyot ancestral territory.

I look forward to speaking with you.

Thank you,

Tom

Dr. Thomas Torma
Lhatsik Wadaqoumilh (Cultural Director)
Wiyot Tribe
1000 Wiyot Drive
Loleta, CA 95551
tel. 707.733.5055 ext. 107
cel. 406.850.2220
fax 707.733.5601
http://wiyot.us/cultural

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August 24, 2016

Steven Estrada, Chairperson
Santa Rosa Band of Mission Indians
P.O. Box 391820
Anza, CA 92539

Subject: California Department of Food and Agriculture Medical Cannabis Cultivation Licensing Program
Environmental Impact Report

Dear Honorable Steven Estrada, Chairperson:

The California Department of Food and Agriculture (CDFA) is preparing to file a Notice of Preparation (NOP) of a Programmatic Environmental Impact Report (PEIR) for the Medical Cannabis Cultivation Program (MCCP), as required by California Code of Regulations title 14, section 15000 et seq. This PEIR is being prepared in response to the Medical Cannabis Regulation and Safety Act (Act) that was signed by Governor Brown in 2015. The Act outlines a new structure for regulation and enforcement of medical cannabis production and use in California. The Act addresses issues such as cultivation, manufacture of cannabis products, quality control and inspection, distribution, dispensaries, and prescriptions for patients. The Act also establishes new licensing procedures for various aspects of the production process.

CDFA is tasked with licensing medical cannabis cultivation, as well as establishing a "track and trace" system, which involves development of a unique identifier for each plant, a reporting system, fees, and a method to document the transport path of plants from cultivation to sale of the medicinal cannabis product. The cultivation licensing and track and trace system are collectively considered the MCCP or Proposed Program. CDFA is preparing a PEIR to provide the public, responsible agencies, trustee agencies, and permitting agencies with information about the potential environmental effects associated with the adoption and implementation of these statewide regulations. The PEIR will be prepared by CDFA in accordance with the provisions of the California Environmental Quality Act (CEQA) and the State CEQA Guidelines.

The overall purpose of CDFA’s MCCP is to establish a regulatory licensing program that would ensure that medical cannabis cultivation operations would be performed in a manner that protects the environment, cannabis cultivation workers, and the general public from the individual and cumulative effects of these operations, and fully complies with all applicable laws. An additional purpose of MCCP is to establish a track and trace program to ensure the movement of medical cannabis items are tracked throughout the production chain.

The regulations will be developed to achieve the following objectives:

- Establish minimum requirements for indoor, outdoor, and mixed light medical cannabis cultivation operations that must be achieved by cultivators in order to obtain a cultivation license from CDFA;

- Establish a limit on the quantity of licenses issued for the Type 3, 3A, and 3B cultivation categories;

- Ensure that individual and cumulative effects of water diversion and discharge associated with cultivation do not affect the instream flows needed for fish spawning, migration, and rearing, and the flows needed to maintain natural flow variability;

- Ensure that cultivation will not negatively impact springs, riparian wetlands, and aquatic habitats;
• Require that cannabis cultivation by licensees is conducted in accordance with state and local laws related to land conversion, grading, electricity usage, water usage, water quality, woodland and riparian habitat protection, agricultural discharges, and similar matters;
• Establish procedures for the issuance and revocation of unique identifiers for activities associated with a cannabis cultivation license;
• Prescribe standards for the reporting of information as necessary related to unique identifiers;
• Establish a scale of application, licensing, and renewal fees, based upon the cost of administering and enforcing the Program; and
• Develop a cultivation checklist tool that can be used by CDFA, other agencies, and local governments to evaluate environmental impacts of cannabis cultivation license programs.

Pursuant to Public Resources Code Section 21080.3.1 et seq., the CDFA is notifying you of our intent to consider the Proposed Program, including its potential for impacting tribal cultural resources. The regulations require that you contact us within 30 days from your receipt of this letter to request a consultation regarding any potential impacts of this project on tribal cultural resources. If you wish to request the consultation, or if you have any questions, please contact:

Amber Morris, Branch Chief
Medical Cannabis Cultivation Program
California Department of Food and Agriculture, MCCP
1220 N Street, Suite 400
Sacramento, CA 95814
Phone: (916) 263-0801
Email: amber.morris@cdfa.ca.gov

If you do not contact us within 30 days following receipt of this letter, the CDFA will proceed with processing the above referenced application with the assumption that your tribe does not wish to consult about the potential effects of the MCCP on tribal cultural resources. If consultation is requested, please provide the name and contact information of the designated lead contact person as part of your request. The CDFA will contact the designated person to set a meeting date to begin consultation within 30 days of our receipt of your request.

More detailed information about this project is available on the internet at https://www.cdfa.ca.gov/is/mccp/. Thank you for giving this matter your prompt attention.

Sincerely,

Amber Morris, Chief
Medical Cannabis Cultivation Program
Division of Inspection Services
Hi Kimia,

It was a pleasure talking to you today. Per our conversation, we will note for the record that the concerns and issues conveyed during our January 9, 2017 meeting during consultation are reiterated and will serve as the comments for this consultation as well.

The concerns you raised at that time were taken into account for the draft PEIR which can be found at the following link: https://www.cdfa.ca.gov/calcannabis/DraftPEIR.html

Please let me know if you have any other questions or concerns.

Thank you,

Crystal

Crystal D’Souza
Staff Counsel
California Dept. of Food and Agriculture.
(916)654-0433

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---

From: CDFA CalCannabis PEIR@CDFA
Sent: Wednesday, July 26, 2017 11:44 AM
To: D’Souza, Crystal@CDFA
Cc: Michael Stevenson; Janis Offermann; Morris, Amber@CDFA
Subject: Fw: Tribal Consultation: CalCannabis Cultivation Licensing

---

From: Kimia Fatehi <kfatehi@tataviam-nsn.us>
Sent: Monday, July 24, 2017 6:23 PM
To: CDFA CalCannabis PEIR@CDFA
Subject: Tribal Consultation: CalCannabis Cultivation Licensing

Hello,

Thank you for the notification and the opportunity to consult on the above referenced project. To protect tribal cultural resources, the Fernandeño Tataviam Band of Mission Indians (Tribe) would like to consult on the above
referenced project. Please let me know when is most convenient to initiate consultation. I can be reached at 1019 Second St. San Fernando, CA 91340, (818)837-0794, or by e-mail at kfatehi@tataviam-nsn.us

Thank you so much.

Respectfully,
Kimia

--
Kimia Fatehi
Director, Public Relations
Officer, Tribal Historic and Cultural Preservation
Fernandeño Tataviam Band of Mission Indians
1019 Second Street, Suite 1
San Fernando, California 91340
Office: (818) 837-0794
Website: http://www.tataviam-nsn.us

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Hi Kimia,

It was a pleasure talking to you today. Per our conversation, we will note for the record that the concerns and issues conveyed during our January 9, 2017 meeting during consultation are reiterated and will serve as the comments for this consultation as well.

The concerns you raised at that time were taken into account for the draft PEIR which can be found at the following link: https://www.cdfa.ca.gov/calcannabis/DraftPEIR.html

Please let me know if you have any other questions or concerns.

Thank you,

Crystal

Crystal D'Souza
Staff Counsel
California Dept. of Food and Agriculture.
(916)654-0433

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Thank you so much.

Respectfully,
Kimia

--
Kimia Fatehi
Director, Public Relations
Officer, Tribal Historic and Cultural Preservation
Fernandeño Tataviam Band of Mission Indians
1019 Second Street, Suite 1
San Fernando, California 91340
Office: (818) 837-0794
Website: http://www.tataviam-nsn.us

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Dear Chairman Franklin and Ms. Smith,

The California Department of Food and Agriculture (CDFA) received the Stewarts Point Rancheria Kashi Band of Pomo Indians August 29, 2016 letter requesting consultation in regards to the August 24, 2016 notification letter about the CDFA's Medical Cannabis Cultivation Program (MCCP). I left a message with Chairman Franklin on September 2, 2016 serving as CDFA's initial intent to consult with your tribe in response to your expressed interest in this Program, as required under Public Resources Code Section 21080.3.1 et seq.

We are interested in finding out more about your specific interests in or concerns about the MCCP. Are there any specific areas of interest that you would like to discuss?

We would also like to know how you would like to conduct consultations. Would you prefer meeting in person, at least for our first meeting, or would you prefer meeting via a conference call or through videoconferencing? We are happy to accommodate whichever method you prefer.

Details about the MCCP, including the Notice of Preparation for the PEIR and upcoming public scoping workshops throughout the state, can be found at our website at www.cdfa.ca.gov/is/mccp. At the website you can also sign up for listserv to receive automatic e-mail updates.
Thank you and we look forward to hearing from you.

Crystal

Crystal D'Souza
Staff Counsel
California Dept. of Food and Agriculture.

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From: lorin@stewartspoint.org (mailto:lorin@stewartspoint.org)
Sent: Monday, August 29, 2016 4:39 PM
To: Morris, Amber@CDFA
Subject: Ca.Dept. of Food and Ag. Medical Cannabis Cultivation Licensing Program Environmental Impact Report

Amber;

The Stewarts Point Rancheria Kashia Band of Pomo Indians would request Consultation on any Potential Effects of the MCCP on Tribal Cultural Resources.

Reno K. Franklin is the Tribal Chairman, so he will be the Lead Contact person. Unless he designates it too someone else.
You can send a letter to The Chairman at the same address.

Thank you,

Lorin W. Smith, Jr.
Tribal Historic Preservation Officer
1420 Guerneville Road, Suite 1
Santa Rosa CA 95403
Email: lorin@stewartspoint.org

Office: 707-591-0580 x 105
Cell: 707-321-7064
Dear Mr. Guerrero,

The Department received your May 22, 2017 letter requesting consultation on the Department’s CalCannabis Cultivation Licensing Program (Program) specifically to request copies of environmental documents to comment on and expressed concern over any ground disturbing activities. This letter serves as our initial intent to consult with your tribe in response to your expressed interest in this Program, as required under Public Resources Code Section 21080.3.1 et seq.

The Draft Programmatic Environmental Impact has not yet been released, but is forthcoming. Other tribes have opted to wait to schedule a meeting until they have had a chance to review the document. Please let us know if that is your preference as well.

We would also like to know how you would like to conduct consultations. Would you prefer meeting in person, at least for our first meeting, or would you prefer meeting via a conference call or through videoconferencing? We are happy to accommodate whichever method you prefer.

Thank you,

Crystal

Crystal D’Souza
Staff Counsel
California Dept. of Food and Agriculture.
(916)654-0433

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Hi Victoria,

I am following up on our conversation from Friday last week. You requested that the Department’s Medical Cannabis Cultivation Program (MCCP) keep you updated about our Program Environmental Impact Report developments and did not request any specific or in person consultation.

Per your request, details about the MCCP program and upcoming public scoping workshops throughout the state can be found at our website at www.cdfa.ca.gov/is/mccp. At the website you can also sign up for listserv to receive automatic e-mail updates. If you have any additional questions please let us know.

Thank you,

Crystal

Crystal D'Souza
Staff Counsel
California Dept. of Food and Agriculture.

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Dear Mr. Hillman,

We received your letter dated May 2, 2017, expressing interest in consultation on the Department’s CalCannabis Licensing Program. Per our conversation today, you expressed an interest in meeting to discuss concerns regarding impacts to tribal cultural resources among the other concerns specified in your letter after you have a chance to review the Draft Program Environmental Impact Report (PEIR) and proposed regulations. The regulations can be found at the following website: http://calcannabis.cdfa.ca.gov/

We would also like to know how you would like to conduct consultations. Would you prefer meeting in person, at least for our first meeting, or would you prefer meeting via a conference call or through videoconferencing? We are happy to accommodate whichever method you prefer. We look forward to hearing from you in the future to schedule a consultation meeting after review of the Draft PEIR and regulations.

Thank you,

Crystal

Crystal D'Souza
Staff Counsel
California Dept. of Food and Agriculture.
(916)654-0433

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Dear Ms. McQuillen,

The Department received your letter dated July 20, 2017 requesting consultation on the Department’s CalCannabis Cultivation Licensing Program (Program) specifically to request copies of environmental documents to comment on and expressed concern over any ground disturbing activities. I initially responded to the letter via phone message on August 1, 2017 and left a message again today. My phone call and this letter serves as our intent to consult with your tribe in response to your expressed interest in this Program, as required under Public Resources Code Section 21080.3.1 et seq.

The Draft Programmatic Environmental Impact has been released and can be found at the following link: , but is forthcoming. Your letter also requested archaeological information, surveys, and other studies. The Program has not yet begun accepting applications for cultivation licensing so does not have the information you are requesting.

Please let me know how you would like to conduct consultations. Would you prefer meeting in person, at least for our first meeting, or would you prefer meeting via a conference call or through videoconferencing? We are happy to accommodate whichever method you prefer. You may also give me call at 916-403-6729.

Thank you,

Crystal

Crystal D'Souza
Staff Counsel
California Dept. of Food and Agriculture.
(916)654-0433

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Dear Honorable Olivas Tucker, Chairwoman

We received your August 30, 2016 e-mail responding to the California Department of Food and Agriculture’s (CDFA) August 24, 2016 notification letter about the Medical Cannabis Cultivation Program (MCCP). You indicated that any activity should not be allowed until a full assessment of impacts and after the assessment each project should be discussed and further considered. This e-mail serves as our initial intent to consult with your tribe in response to your expressed interest in the MCCP, as required under Public Resources Code Section 21080.3.1 et seq.

With respect to a full assessment, the MCCP is moving forward with preparation of a Program Environmental Impact Report (PEIR). Besides the full assessment, we would like to know a little more about your specific interests in or concerns about the MCCP. Are there any specific areas of interest that you would like to discuss?

We would also like to know how you would like to conduct consultations. Would you prefer meeting in person, at least for our first meeting, or would you prefer meeting via a conference call or through videoconferencing? We are happy to accommodate whichever method you prefer. Also, if you have not yet done so, please identify who will be the point of contact for your tribe for the MCCP consultations.

Details about the MCCP, including the Notice of Preparation for the PEIR and upcoming public scoping workshops throughout the state, can be found at our website at www.cdfa.ca.gov/is/mccp. At the website you can also sign up for listserv to receive automatic e-mail updates.

Thank you and we look forward to hearing from you.

Crystal D'Souza
Staff Counsel
California Dept. of Food and Agriculture.

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Dear Honorable Louise J. Miranda Ramirez, Chairperson

We received your September 26, 2016 e-mail responding to the California Department of Food and Agriculture’s (CDFA) August 24, 2016 notification letter about the Medical Cannabis Cultivation Program (MCCP). You indicated that the Ohlone/Costanoan-Esselen Nation objects to all excavation, disturbed or undisturbed and of no significant archaeological value, on known cultural lands. Specifically, you requested archaeological reports and surveys and to be included in the mitigation and recovery programs. This e-mail serves as our initial intent to consult with your tribe in response to your expressed interest in the MCCP, as required under Public Resources Code Section 21080.3.1 et seq.

We would also like to know how you would like to conduct consultations. Would you prefer meeting in person, at least for our first meeting, or would you prefer meeting via a conference call or through videoconferencing? We are happy to accommodate whichever method you prefer.

Details about the MCCP, including the Notice of Preparation for the PEIR and upcoming public scoping workshops throughout the state, can be found at our website at www.cdfa.ca.gov/is/mccp. At the website you can also sign up for listserv to receive automatic e-mail updates.

Thank you and we look forward to hearing from you.

Crystal

Crystal D'Souza
Staff Counsel
California Dept. of Food and Agriculture.

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Hi Mr. Ruiz

It was a pleasure to speak to you today regarding your request for AB 52 consultation on the Department’s CalCannabis Cultivation Licensing Program. During our call you raised three main issues, importance of tribal consultation prior to site development, water resources, and the potential for fees for environmental review.

Per our conversation, I am sending this e-mail so you can further explain these concerns for the Program EIR record. Please include any other concerns or questions.

Thank you,

Crystal

Crystal D’Souza
Staff Counsel
California Dept. of Food and Agriculture.
(916)654-0433

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Dear Ms. Sanders,

Amber Morris forwarded me your information to respond to your request for consultation on the Department’s CalCannabis Licensing Program (Program). We are looking forward to consulting with you as we develop the Program. This letter serves as our initial intent to consult with your tribe in response to your expressed interest in this Program, as required under Public Resources Code Section 21080.3.1 et seq.

Prior to scheduling a meeting with you to discuss the Program, we would like to know a little more about your specific interests in or concerns about the Program. We are aware that most California Native American tribes are concerned with potential direct impacts to tribal cultural resources, and that tribes would like to be involved in the early planning stages for the development of potential cultivation sites. Are there any other specific areas of interest that you would like to discuss?

You indicated in your e-mail below that the Yurok Tribal Council has a very busy schedule and upcoming cultural events. Given this consideration, can you please let us know general availability so we have a better idea of dates and times to propose?

Thank you,

Crystal

Crystal D'Souza
Staff Counsel
California Dept. of Food and Agriculture.
(916)654-0433

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Aiy-ye-kwee’ Ms. Morris,

The Yurok Tribe is in receipt of your letter dated May 2, 2017 inviting the Yurok Tribe to engage in consultation regarding the revised NOP of the PEIR for CDFA's Non-Medical Cannabis Cultivation
The Yurok Tribe desires to engage in this consultation process. Please let us know your availability of dates, times, and locations for a potential government-to-government meeting so that we may confirm with Yurok Tribal Council. Due to Council’s very busy schedule and upcoming cultural events, we request providing several options for Council’s consideration over the next couple of months. Council’s strong preference is to have the government-to-government meeting in the Klamath, CA area.

As a final note, please update your records to reflect that our current Chairperson is Thomas P. O’Rourke, Sr.

Thank you,

Cheyenne
Dear Mr. Smith,

The California Department of Food and Agriculture (CDFA) received the Resighini Rancheria’s September 12, 2016 letter requesting consultation in regards to the August 24, 2016 notification letter about the CDFA's Medical Cannabis Cultivation Program (MCCP). You were identified as the appropriate contact person. This e-mail serves as our initial intent to consult with your tribe in response to your expressed interest in this Program, as required under Public Resources Code Section 21080.3.1 et seq.

We are interested in finding out more about your specific interests in or concerns about the MCCP. Are there any specific areas of interest that you would like to discuss?

We would also like to know how you would like to conduct consultations. Would you prefer meeting in person, at least for our first meeting, or would you prefer meeting via a conference call or through videoconferencing? We are happy to accommodate whichever method you prefer.

Details about the MCCP, including the Notice of Preparation for the PEIR and upcoming public scoping workshops throughout the state, can be found at our website at www.cdfa.ca.gov/is/mccp. At the website you can also sign up for listserv to receive automatic e-mail updates.

Thank you and we look forward to hearing from you.

Crystal

Crystal D'Souza
Staff Counsel
California Dept. of Food and Agriculture.

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Hi Ms. Swanson,

Per our conversation, please find attached the Department’s notice letter dated August 24, 2016 about the Medical Cannabis Cultivation Program (MCCP) and the letter we received from Ms. Roselynn Lwenya on September 9, 2016 requesting consultation.

Please let us know if you have any specific interests in or concerns about the MCCP. We would also like to know how you would like to conduct consultations. Would you prefer meeting in person, at least for our first meeting, or would you prefer meeting via a conference call or through videoconferencing? We are happy to accommodate whichever method you prefer.

Thank you,

Crystal

Crystal D'Souza
Staff Counsel
California Dept. of Food and Agriculture.

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Michael Stevenson, M.S.
Principal
Horizon Water and Environment, LLC
180 Grand Avenue, Suite 1405; Oakland, CA 94612
P.O. Box 2727; Oakland CA, 94602
michael@horizonh2o.com
510-986-1852
www.horizonh2o.com

Hi Tom and Janet,

Amber forwarded your e-mails to me regarding AB-52 consultation under CEQA with respect to the Department’s Medical Cannabis Cultivation Program (MCCP). I spoke to Tom on Friday and he indicated an interest in consultation with respect to archaeological sites and we discussed the benefits of including Humboldt County in the consultation.

The MCCP is receptive to a joint meeting with the county and tribes from Humboldt County. Please have other tribes contact us if they are interested so we can include them in the consultation and set up a meeting.

Also, Thursday next week (9/15/16) the MCCP will be in Eureka having our public scoping workshops for the MCCP Program Environmental Impact Report. If you would like to attend, the meeting will be from 4p.m. to 7p.m. at the Red Lion Hotel; 1929 4th Street; Eureka, CA 95501. Details about the MCCP program and additional public scoping workshops throughout the state can be found at our website at www.cdfa.ca.gov/js/mccp.

Thank you,

Crystal

Crystal D'Souza
Amber,

I’ve spoken with Steve Lazar, who is handling the marijuana regulations for Humboldt County, as well as Janet and Erika from Blue Lake and Bear River Rancherias. As part of the consultation, would you be receptive to a joint meeting between the county and tribes from Humboldt County? At this point, we have at least three tribes that are interested, but we have not yet spoken to the other tribes. The Wiyot Tribe feels that Humboldt County has done an excellent job of working with the tribes, and we would like to extend that conversation to include CDFA.

Please let me know if you are interested in such a conversation.

Thank you,
Tom

Amber,

I also received the 8/24/16 notice and am in agreement with Wiyot THPO’s observations. Notably, Blue Lake Rancheria and other THPOs participated in development of Humboldt County’s medical marijuana cultivation ordinance to specifically address effects on Tribal Cultural Resources per AB 52/CEQA.

The Tribe wishes to be consulted as you move forward with developing program guidelines.

Regards,

Janet P. Eidsness, M.A.
Tribal Heritage Preservation Officer (THPO)
Blue Lake Rancheria
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From: Tom [mailto:tom@wiyot.us]
Sent: Thursday, September 01, 2016 12:20 PM
To: amber.morris@cdfa.ca.gov
Cc: erikacooper@brb-nsn.gov; 'Janet Eidsness'; Janet Eidsness
Subject: Wiyot THPO Response to Medical Cannabis Cultivation Licensing Program

Dear Amber,

Thank you for your letter, dated August 24, 2016, regarding Medical Cannabis Cultivation Licensing Program. With Wiyot Tribe’s ancestral territory is based around Humboldt Bay, and the lower reaches of the Mad and Eel Rivers in Humboldt County. We have already seen a significant impact from the development of the medical marijuana program. Of particular concern is the potential impact of marijuana cultivation on archaeological sites. In particular, many previously illegal grow sites are on archaeologically sensitive areas, and new proposed sites are also trending towards archaeologically sensitive areas.

With this in mind, we accept your invitation for consultation. I have cc’d the THPOS from Blue Lake Rancheria and the Bear River Band of Rohnerville Rancheria, as they also have Wiyot ancestry and we try to coordinate our efforts to protect Wiyot ancestral territory.

I look forward to speaking with you.

Thank you,
Tom
Dr. Thomas Torma
Lhatsik Wadaqoumilh (Cultural Director)
Wiyot Tribe
1000 Wiyot Drive
Loleta, CA 95551
tel. 707.733.5055 ext. 107
cel. 406.850.2220
fax 707.733.5601
http://wiyot.us/cultural

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Hi Tom,

I am following up on your letter requesting consultation on the Department’s CalCannabis Cultivation Licensing Program. Per our discussion on May 26, 2017 you requested a meeting to discuss impacts to tribal cultural resources as well as the process with Humboldt and other counties.

Per our conversation you said that you would provide availability in the coming weeks to arrange a meeting. Please let me know what days and times work for you and I will check availability on our end to schedule a meeting.

Thank you,

Crystal

Crystal D'Souza
Staff Counsel
California Dept. of Food and Agriculture.
(916)654-0433

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From: D'Souza, Crystal@CDFA
To: jtumamait@hotmail.com
Cc: Morris, Amber@CDFA; Michael Stevenson; Janis Offermann
Subject: CDFA Medical Cannabis Cultivation Program Environmental Impact Report Public Resources Code Section 21080.3.1 Consultations
Date: Thursday, September 08, 2016 5:04:29 PM

Dear Honorable Tumamait-Stenslie, Tribal Chair

We received your August 27, 2016 e-mail responding to the California Department of Food and Agriculture’s (CDFA) August 24, 2016 notification letter about the Medical Cannabis Cultivation Program (MCCP). You inquired if this particular project is exempt from CEQA and you also asked to be provided notification prior to decision making on location choices within Cultural territory. This e-mail serves as our initial intent to consult with your tribe in response to your expressed interest in this Program, as required under Public Resources Code Section 21080.3.1 et seq.

Because no CEQA exemption applies to the MCCP, we are moving forward with preparation of a Program Environmental Impact Report (PEIR). As such, we are interested in finding out more about your specific interests in or concerns about the MCCP. Are there any specific areas of interest that you would like to discuss?

We would also like to know how you would like to conduct consultations. Would you prefer meeting in person, at least for our first meeting, or would you prefer meeting via a conference call or through videoconferencing? We are happy to accommodate whichever method you prefer. Also, if you have not yet done so, please identify who will be the point of contact for your tribe for the MCCP consultations.

Details about the MCCP, including the Notice of Preparation for the PEIR and upcoming public scoping workshops throughout the state, can be found at our website at www.cdfa.ca.gov/is/mccp. At the website you can also sign up for listserv to receive automatic e-mail updates.

Thank you and we look forward to hearing from you.

Crystal

Crystal D'Souza
Staff Counsel
California Dept. of Food and Agriculture.

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Hi Mr. Weathers,

It was a pleasure meeting you and other member of the Santa Rosa Band of Cahuilla Indians at the Department’s Medical Cannabis Cultivation Program (MCCP) scoping meeting on September 28th. Per our conversation, the Tribe was interested in participation and licensing under the MCCP. As I explained, the Department cannot move forward with licensing cultivation on tribal lands at this time.

Please let me know if there are any other issues or impacts to tribal cultural resources that you would like consultation on.

Thank you,

Crystal

Crystal D'Souza
Staff Counsel
California Dept. of Food and Agriculture.

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Amber,

I am the general counsel for the Santa Rosa Band of Cahuilla Indians located in Riverside County; in light of the attached letter, the Tribe requests a consultation regarding any potential impacts of this project on tribal cultural resources; in addition, the Tribe would like to discuss with you its own cannabis cultivation program; please let us know when and where you would like to meet; the first and second weeks of October look pretty open on my calendar; if you have any questions or comments, you may contact me or the tribal administrator, Terry Hughes (email above); thanks

Thomas Weathers, Esq.
The Law Offices of Thomas Eagle Weathers, P.C.
1000 Fourth St., Suite 500
San Rafael, CA 94901
Tel: (415) 526-4707
Fax: (415) 453-0549
www.thomasweatherslaw.com

“A Native-Owned Law Firm”

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Hi Ms. McQuillen,

Our draft PEIR can be found at the following website:
https://www.cdfa.ca.gov/calcannabis/DraftPEIR.html

I apologize for not copying the link in my e-mail below.

Thank you,

Crystal

Crystal D'Souza
Staff Counsel
California Dept. of Food and Agriculture.
(916)654-0433

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Hello Ms. D’Souza, is there a link for the draft environmental document for this project? I would like to receive as much information ahead of a meeting in person or by conference call because it makes for a better discussion of what is being considered.

Buffy McQuillen
Tribal Heritage Preservation Officer (THPO)
Native American Graves Protection and Repatriation Act (NAGPRA)
Federated Indians of Graton Rancheria
6400 Redwood Drive, Suite 300
Rohnert Park, CA 94928
Office: 707.566.2288; ext. 137
Cell: 707.318.0485
FAX: 707.566.2291
bmcquillen@gratonrancheria.com

Federated Indians of Graton Rancheria: Proprietary and Confidential
Dear Ms. McQuillen,

The Department received your letter dated July 20, 2017 requesting consultation on the Department’s CalCannabis Cultivation Licensing Program (Program) specifically to request copies of environmental documents to comment on and expressed concern over any ground disturbing activities. I initially responded to the letter via phone message on August 1, 2017 and left a message again today. My phone call and this letter serves as our intent to consult with your tribe in response to your expressed interest in this Program, as required under Public Resources Code Section 21080.3.1 et seq.

The Draft Programmatic Environmental Impact has been released and can be found at the following link: , but is forthcoming. Your letter also requested archaeological information, surveys, and other studies. The Program has not yet begun accepting applications for cultivation licensing so does not have the information you are requesting.

Please let me know how you would like to conduct consultations. Would you prefer meeting in person, at least for our first meeting, or would you prefer meeting via a conference call or through videoconferencing? We are happy to accommodate whichever method you prefer. You may also give me a call at 916-403-6729.

Thank you,

Crystal

Crystal D'Souza
Staff Counsel
California Dept. of Food and Agriculture.
(916)654-0433
attachments.
Appendix G

Gabrieleno Tongva
San Gabriel Band of Mission Indians

December 1, 2016

California Department of Food and Agriculture
1220 N. Street
Sacramento, CA 95814

RE: California Environmental Quality Act Public Resources Code section 21080.3, subd. (b) Request for Formal Notification of Proposed Projects Within the San Gabriel Band of Mission Indians Tribe’s Geographic Area of Traditional and Cultural Affiliation

CC: Native American Heritage Commission

To whom it may concern:

As of the date of this letter, in accordance with Public Resources Code Section 21080.3.1, subd. (b), San Gabriel Band of Mission Indians, which is traditionally and culturally affiliated with a geographic area within your agency’s geographic area of jurisdiction, requests formal notice of, and information on, proposed projects for which your agency will serve as a lead agency under the California Environmental Quality Act (CEQA), Public Resources Code section 21000 et seq. Pursuant to Public Resources Code section 21080.3.1, subd. (b), and until further notice, we hereby designate the following person as the tribe’s lead contact person for purposes of receiving notices of proposed projects from your agency:

San Gabriel Band of Mission Indians
Anthony Morales, Chief
P. O. Box 693
San Gabriel, CA 91778
Fax: (626) 286-1262
Phone: (626) 483-3564
GTTRibalcouncil@aol.com

We request that all notices be sent via certified U.S. Mail with return receipt. Following receipt and review of the information your agency provides, within the 30-day period prescribed by Public Resources Code section 21080.3.1, subd. (d), the San Gabriel Band of Mission Indians may request consultation, as defined by Public Resources Code section 21080.3.1, subd. (b), pursuant to Public Resources Code section 21080.3.2 to mitigate any project impacts a specific project may cause to tribal cultural resources.

If you have any questions or need additional information, please contact our lead contact person listed above.

Sincerely,

[Signature]

Anthony Morales
San Gabriel Band of Mission Indians
Chief

Appendix G-114
December 1, 2016

To Whom It May Concern,

I am sending this letter on behalf of the Morales family of the San Gabriel Band of Mission Indians to help facilitate communication regarding the Gabrieleno cultural resources and archaeological studies. The San Gabriel Band of Mission Indians gained recognition from the state of California in 1994 as an indigenous tribe within the Los Angeles basin (California Legislature Assembly Joint Resolution No. 96, adopted in Senate August 11, 1994). The Morales family has been an active participant in the preservation of Gabrieleno tribal resources since the early 1970s. As early as 1978, the Native American Heritage Commission identified the Morales family as important Tribal Leaders in Southern California for their tenacious efforts to preserve Gabrieleno cultural resources. Today, the Morales family continues to help preserve their culture through a new partnership with Scientific Resource Surveys, Inc (SRSInc).

SRSInc is recognized as the oldest Cultural Resource Management (CRM) firm in Southern California, if not the United States. For over 43 years, SRSInc has worked side-by-side with the Gabrieleno in the Los Angeles basin to provide support to the Southern California building industry. SRSInc was formed in 1973 (incorporated in 1977) and currently operates as a California and Alaska Small Business, UDBE, DBE, and Woman-owned Corporation out of Orange County, California. As an equal opportunity employer, SRSInc employs a diverse staff of specialists to conduct archaeological, ethnographic, historic, and paleontological studies throughout Southern California. SRSInc is more than a Cultural Resource Management firm; it is a consortium of very talented scientists, artists, and support staff who have worked for decades in the fields of Archaeology, History, Ethnography, Genealogy, Archival Research, Museum Displays, Graphic Arts, Paleontology, Zoology, Bioarchaeology and Forensic Sciences. Each person has his/her own exceptional skills, which together, overlap and intertwine to form a cohesive team.

The San Gabriel Band of Mission Indians have united with SRSInc to facilitate seamless interaction between developers and the tribe, as dictated by the new CRM laws. The most recent changes to state statutes were put into effect in 2015. Assembly Bill No. 52 (AB-52) was passed late-2014 to amend the current policy surrounding Native American resources. The implementation of AB-52 mandates tribal consultation and emphasizes tribal knowledge during CEQA review. Additionally, AB-52 has broadened the definition of what constitutes as a cultural resource. Previously, a cultural resource was reserved to archaeological and historical objects and buildings. AB-52 has coined a new term, Tribal Cultural Resources (TCR), to be more inclusive of culturally valued resources, whether they be tangible objects or conceptual. The enactment of AB-52 has placed a new emphasis on collaboration with tribal governments to help understand how indigenous populations used, and continue to use, local landscapes.

The San Gabriel Band of Mission Indians have requested to be consulted for all developments located within the Los Angeles Basin. As a partner and qualified expert, SRSInc can provide the required information to help save time and money. By working together, we can help you navigate through your legal obligations and facilitate all of your cultural resource management needs for the Los Angeles basin. Please feel free to contact SRSInc’s tribal liaison, Kassie Sugimoto, for additional information or with any questions. We look forward to working with you in the near future.

Kassie Sugimoto
Tribal Liaison
Scientific Resource Surveys, Inc.
2324 N. Batavia St. Ste. 109, Orange, CA 92865
Tel: 714-685-0204
Fax: 714-685-0082

Sincerely,

Nancy "Anastasia" Wiley
Scientific Resource Surveys, Inc.

Anthony Morales
San Gabriel Band of Mission Indians

Adrian Morales
San Gabriel Band of Mission Indians
September 2, 1978

Mr. Fred Morales  
Gabrieleno/Tongva Tribal Council  
211 East Main Street  
San Gabriel, CA 91776  

Dear Mr. Morales:

As you know, the State of California Native American Heritage Commission was created by AB 4239 in 1976 and the Commission began its work January 1, 1977 with new authority codified in Public Resources Code Section 5097. 9.

You have been identified as an important Tribal Leader in Southern California. The Commission looks forward to working with you and Tribal Elders as it makes plans and services to protect California Native American burial sites and artifacts associated with burials. The Commission is also concerned about development activities that might threaten Native American sacred sites.

Please feel free to contact me with your concerns and your suggestions that will make the work of the Commission effective in cooperation with California Native American Tribes.

Sincerely,

Steve Rios  
Executive Secretary
RESOLUTION


The Gabrielinos

Whereas, Gabrielino land territory encompasses the entire Los Angeles Basin area and the Chocua Islands of Santa Catalina, San Nicolas, and San Clemente; and

Whereas, The Gabrielinos were, at one time, one of the most prosperous and generous Native American tribes of southern California. Long before European contact, the Gabrielinos already had a major society in place with a government, laws, religion, music, dance, art, a monetary system, and cultural exchanges; and

Whereas, The State of California has had consistent interaction with the Gabrielinos, known originally as the San Gabriel Band of Mission Indians; and

Whereas, The State of California recognizes that the Gabrielino Indian community existed and has continued to exist without interruption to the present day; and

Whereas, The State of California recognizes that the Gabrielinos have held general membership meetings in the San Gabriel, California region for over 100 years; and

Whereas, The State of California recognizes that Gabrielino members participate consistently in tribal affairs; now, therefore, be it

Resolved by the Assembly and Senate of the State of California, Jointly, That the State of California recognizes the Gabrielinos as the aboriginal tribe of the Los Angeles Basin and takes great pride in recognizing the Indian inhabitants of the Los Angeles Basin and the continued existence of the Indian community within our state; and be it further

Resolved, That the California Legislature respectfully recognizes the President and Congress of the United States to likewise give recognition to the Gabrielinos as the aboriginal tribe of the Los Angeles Basin; and be it further

Resolved, That the Chief Clerk of the Assembly transmit copies of this resolution to the President and Vice President of the United States, to the Speaker of the House of Representatives, to each Senator and Representative from California in the Congress of the United States.

Assembly Joint Resolution No. 96
Adopted in Assembly August 11, 1994

Signed:  
Speaker of the Assembly

Adopted in Senate August 8, 1994

Signed:  
President of the Senate

Appendix G-117
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Appendix H

Medical and Adult-Use Cannabis Regulation and Safety Act
THE LEGISLATURE FINDS AND DECLARE AS FOLLOWS:

(a) In November 1996, voters approved Proposition 215, which decriminalized the use of medicinal cannabis in California. Since the proposition was passed, most, if not all the regulation has been left to local governments.

(b) In 2015, California enacted three bills—Assembly Bill 243 (Wood, Chapter 688 of the Statutes of 2015); Assembly Bill 266 (Bonta, Chapter 689 of the Statutes of 2015); and Senate Bill 643 (McGuire, Chapter 719 of the Statutes of 2015)—that collectively established a comprehensive state regulatory framework for the licensing and enforcement of cultivation, manufacturing, retail sale, transportation, storage, delivery, and testing of medicinal cannabis in California. This regulatory scheme is known as the Medical Cannabis Regulation and Safety Act (MCRSA).

(c) In November 2016, voters approved Proposition 64, the Adult Use of Marijuana Act (AUMA). Under Proposition 64, adults 21 years of age or older may legally grow, possess, and use cannabis for nonmedicinal purposes, with certain restrictions. In addition, beginning on January 1, 2018, AUMA makes it legal to sell and distribute cannabis through a regulated business.

(d) Although California has chosen to legalize the cultivation, distribution, and use of cannabis, it remains an illegal Schedule I controlled substance under federal law. The intent of Proposition 64 and MCRSA was to ensure a comprehensive regulatory system that takes production and sales of cannabis away from an illegal market and curtails the illegal diversion of cannabis from California into other states or countries.

(e) Cannabis is cultivated in all 50 states however; the majority of domestically produced cannabis comes from California. In 2014, the United States Drug Enforcement Agency’s Domestic Cannabis Eradication Suppression Program eradicated 4.3 million plants in the United States; 2.68 million of which were grown in California. Much of the cannabis grown in the state is grown for exportation purposes. To prevent illegal production and avoid illegal diversion to other states, California must place strict limits on cultivation.

(f) In order to strictly control the cultivation, processing, manufacturing, distribution, testing, and sale of cannabis in a transparent manner that allows the state to fully implement and enforce a robust regulatory system, licensing authorities must know the identity of those individuals who have a significant financial interest in a licensee, or who can direct its operation. Without this knowledge, regulators would not know if an individual who controlled one licensee also had control over another. To ensure accountability and preserve the state’s ability to adequately enforce against all responsible parties the state must have access to key information.

(g) So that state entities can implement the voters’ intent to issue licenses beginning January 1, 2018, while avoiding duplicative costs and inevitable confusion among licensees, regulatory agencies, and the public and ensuring a regulatory structure that prevents access to minors, protects public safety, public health and the environment, as well as maintaining local control, it is necessary to provide for a single regulatory structure for both medicinal and adult-use cannabis and provide for temporary licenses to those applicants that can show compliance with local requirements.

(h) Before denying a license and creating arbitrary barriers to entry into the legal regulated marketplace, it is the intent of the state to compile data that will inform how to best craft licensure policies that will prevent the proliferation of the illegal market while allowing a balanced regulatory scheme that allows legitimate businesses that comply with local standards to succeed. This will also permit licensing entities to issue licenses in a more timely manner.

(i) The United States Environmental Protection Agency has not established appropriate pesticide tolerances for, or permitted the registration and lawful use of, pesticides on cannabis crops intended for human consumption pursuant to the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. 136 et seq.).

(j) The use of pesticides is not adequately regulated due to the omissions in federal law, and cannabis cultivated in California for California patients can and often does contain pesticide residues.

(k) Lawful California medical cannabis growers and caregivers urge the Department of Pesticide Regulation to provide guidance, in absence of federal guidance, on whether the pesticides currently
used at most cannabis cultivation sites are actually safe for use on cannabis intended for human consumption.

**BUSINESS AND PROFESSIONS CODE**

Chapter 3.5 (commencing with Section 19300) of Division 8 of the Business and Professions Code is repealed.

The heading of Division 10 (commencing with Section 26000) of the Business and Professions Code is amended to read: **DIVISION 10. Cannabis**

**CHAPTER 1. GENERAL PROVISIONS AND DEFINITIONS**

**SECTION 26000 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:**

26000. (a) This division shall be known, and may be cited, as the Medicinal and Adult-Use Cannabis Regulation and Safety Act.

(b) The purpose and intent of this division is to establish a comprehensive system to control and regulate the cultivation, distribution, transport, storage, manufacturing, processing, and sale of both of the following:

1. Medicinal cannabis and medicinal cannabis products for patients with valid physician’s recommendations.

2. Adult-use cannabis and adult-use cannabis products for adults 21 years of age and over.

(c) In the furtherance of subdivision (b), this division sets forth the power and duties of the state agencies responsible for controlling and regulating the commercial medicinal and adult-use cannabis industry.

(d) The Legislature may, by majority vote, enact laws to implement this division, provided those laws are consistent with the purposes and intent of the Control, Regulate and Tax Adult Use of Marijuana Act.

**SECTION 26001 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:**

26001. (a) "A-license" means a state license issued under this division for cannabis or cannabis products that are intended for adults who are 21 years of age and older and who do not possess a physician’s recommendation.

(b) "A-licensee" means any person holding a license under this division for cannabis or cannabis products that are intended for adults who are 21 years of age and older and who do not possess a physician’s recommendation.

(c) "Applicant" means an owner applying for a state license pursuant to this division.

(d) "Batch" means a specific quantity of homogeneous cannabis or cannabis product that is one of the following types:

1. Harvest batch. "Harvest batch" means a specifically identified quantity of dried flower or trim, leaves, and other cannabis plant matter that is uniform in strain, harvested at the same time, and, if applicable, cultivated using the same pesticides and other agricultural chemicals, and harvested at the same time.

2. Manufactured cannabis batch. "Manufactured cannabis batch" means either of the following:

   A) An amount of cannabis concentrate or extract that is produced in one production cycle using the same extraction methods and standard operating procedures.

   B) An amount of a type of manufactured cannabis produced in one production cycle using the same formulation and standard operating procedures.

(e) "Bureau" means the Bureau of Cannabis Control within the Department of Consumer Affairs, formerly named the Bureau of Marijuana Control, the Bureau of Medical Cannabis Regulation, and the Bureau of Medical Marijuana Regulation.
(f) “Cannabis” means all parts of the plant Cannabis sativa Linnaeus, Cannabis indica, or Cannabis ruderalis, whether growing or not; the seeds thereof; the resin, whether crude or purified, extracted from any part of the plant; and every compound, manufacture, salt, derivative, mixture, or preparation of the plant, its seeds, or resin. “Cannabis” also means the separated resin, whether crude or purified, obtained from cannabis. “Cannabis” does not include the mature stalks of the plant, fiber produced from the stalks, oil or cake made from the seeds of the plant, any other compound, manufacture, salt, derivative, mixture, or preparation of the mature stalks (except the resin extracted therefrom), fiber, oil, or cake, or the sterilized seed of the plant which is incapable of germination. For the purpose of this division, “cannabis” does not mean “industrial hemp” as defined by Section 11018.5 of the Health and Safety Code.

(g) “Cannabis accessories” has the same meaning as in Section 11018.2 of the Health and Safety Code.

(h) “Cannabis concentrate” means cannabis that has undergone a process to concentrate one or more active cannabinoids, thereby increasing the product’s potency. Resin from granular trichomes from a cannabis plant is a concentrate for purposes of this division. A cannabis concentrate is not considered food, as defined by Section 109935 of the Health and Safety Code, or a drug, as defined by Section 109925 of the Health and Safety Code.

(i) “Cannabis products” has the same meaning as in Section 11018.1 of the Health and Safety Code.

(j) “Child resistant” means designed or constructed to be significantly difficult for children under five years of age to open, and not difficult for normal adults to use properly.

(k) “Commercial cannabis activity” includes the cultivation, possession, manufacture, distribution, processing, storing, laboratory testing, packaging, labeling, transportation, delivery or sale of cannabis and cannabis products as provided for in this division.

(l) “Cultivation” means any activity involving the planting, growing, harvesting, drying, curing, grading, or trimming of cannabis.

(m) “Cultivation site” means a location where cannabis is planted, grown, harvested, dried, cured, graded, or trimmed, or a location where any combination of those activities occurs.

(n) “Customer” means a natural person 21 years of age or older or a natural person 18 years of age or older who possesses a physician’s recommendation, or a primary caregiver.

(o) “Day care center” has the same meaning as in Section 1596.76 of the Health and Safety Code.

(p) “Delivery” means the commercial transfer of cannabis or cannabis products to a customer. “Delivery” also includes the use by a retailer of any technology platform owned, owned, leased, or controlled by the retailer.

(q) “Director” means the Director of Consumer Affairs.

(r) “Distribution” means the procurement, sale, and transport of cannabis and cannabis products between licensees.

(s) “Dried flower” means all dead cannabis that has been harvested, dried, cured, or otherwise processed, excluding leaves and stems.

(t) “Edible cannabis product” means cannabis product that is intended to be used, in whole or in part, for human consumption, including, but not limited to, chewing gum, but excluding products set forth in Division 15 (commencing with Section 32501) of the Food and Agricultural Code. An edible cannabis product is not considered food, as defined by Section 109935 of the Health and Safety Code, or a drug, as defined by Section 109925 of the Health and Safety Code.

(u) “Fund” means the Cannabis Control Fund established pursuant to Section 26210.

(v) “Kind” means applicable type or designation regarding a particular cannabis variant or cannabis product type, including, but not limited to, strain name or other grower trademark, or growing area designation.

(w) “Labeling” means any label or other written, printed, or graphic matter upon a cannabis product, upon its container or wrapper, or that accompanies any cannabis product.

(x) “Labor peace agreement” means an agreement between a licensee and any bona fide labor organization that, at a minimum, protects the state’s proprietary interests by prohibiting labor organizations and members from engaging in picketing, work stoppages, boycotts, and any other economic interference with the applicant’s business. This agreement means that the applicant has agreed not to disrupt efforts by the bona fide labor organization to communicate with, and attempt to organize and represent, the applicant’s employees. The agreement shall provide a bona fide labor organization access at reasonable times to areas in which the applicant’s employees work, for the...
purpose of meeting with employees to discuss their right to representation, employment rights under state law, and terms and conditions of employment. This type of agreement shall not mandate a particular method of election or certification of the bona fide labor organization.

(y) "License" means a state license issued under this division, and includes both an A-license and an M-license, as well as a testing laboratory license.

(2) "Licensee" means any person holding a license under this division, regardless of whether the license held is an A-license or an M-license, and includes the holder of a testing laboratory license.

(aa) "Licensing authority" means the state agency responsible for the issuance, renewal, or reinstatement of the license, or the state agency authorized to take disciplinary action against the licensee.

(ab) "Live plants" means living cannabis flowers and plants, including seeds, immature plants, and vegetative stage plants.

(ac) "Local jurisdiction" means a city, county, or city and county.

(ad) "Lot" means a batch or a specifically identified portion of a batch.

(ae) "M-license" means a state license issued under this division for commercial cannabis activity involving medicinal cannabis.

(af) "M-licensee" means any person holding a license under this division for commercial cannabis activity involving medicinal cannabis.

(ag) "Manufacture" means to compound, blend, extract, infuse, or otherwise make or prepare a cannabis product.

(ah) "Manufacturer" means a licensee that conducts the production, preparation, propagation, or compounding of cannabis or cannabis products either directly or indirectly or by extraction methods, or independently by means of chemical synthesis, or by a combination of extraction and chemical synthesis at a fixed location that packages or repackages cannabis or cannabis products or labels or relabels its container.

(ai) "Medicinal cannabis" or "medicinal cannabis product" means cannabis or a cannabis product, respectively, intended to be sold for use pursuant to the Compassionate Use Act of 1996 (Proposition 215), found at Section 11362.5 of the Health and Safety Code, by a medicinal cannabis patient in California who possesses a physician's recommendation.

(aj) "Nursery" means a licensee that produces only clones, immature plants, seeds, and other agricultural products used specifically for the propagation and cultivation of cannabis.

(ak) "Operation" means any act for which licensure is required under the provisions of this division, or any commercial transfer of cannabis or cannabis products.

(al) "Owner" means any of the following:

1. A person with an aggregate ownership interest of 20 percent or more in the person applying for a license or a licensee, unless the interest is solely a security, lien, or encumbrance.

2. The chief executive officer of a nonprofit or other entity.

3. A member of the board of directors of a nonprofit.

4. An individual who will be participating in the direction, control, or management of the person applying for a license.

(am) "Package" means any container or receptacle used for holding cannabis or cannabis products.

(an) "Person" includes any individual, firm, partnership, joint venture, association, corporation, limited liability company, estate, trust, business trust, receiver, syndicate, or any other group or combination acting as a unit, and the plural as well as the singular.

(ao) "Physician's recommendation" means a recommendation by a physician and surgeon that a patient use cannabis provided in accordance with the Compassionate Use Act of 1996 (Proposition 215), found at Section 11362.5 of the Health and Safety Code.

(ap) "Premises" means the designated structure or structures and land specified in the application that is owned, leased, or otherwise held under the control of the applicant or licensee where the commercial cannabis activity will be or is conducted. The premises shall be a contiguous area and shall only be occupied by one licensee.

(aq) "Primary caregiver" has the same meaning as in Section 11362.7 of the Health and Safety Code.

(ar) "Purchaser" means the customer who is engaged in a transaction with a licensee for purposes of obtaining cannabis or cannabis products.

(as) "Sale," "sale," and "to sell" include any transaction whereby, for any consideration, title to cannabis or cannabis products is transferred from one person to another, and includes the delivery of cannabis or
cannabis products pursuant to an order placed for the purchase of the same and soliciting or receiving an order for the same, but does not include the return of cannabis or cannabis products by a licensee to the licensee from whom the cannabis or cannabis product was purchased.

(at) “Testing laboratory” means a laboratory, facility, or entity in the state that offers or performs tests of cannabis or cannabis products and that is both of the following:

(1) Accredited by an accrediting body that is independent from all other persons involved in commercial cannabis activity in the state.

(2) Licensed by the bureau.

(au) “Unique identifier” means an alphanumeric code or designation used for reference to a specific plant on a licensed premises and any cannabis or cannabis product derived or manufactured from that plant.

(av) “Youth center” has the same meaning as in Section 11353.1 of the Health and Safety Code.

Section 26010 of the Business and Professions Code is repealed.

CHAPTER 2. ADMINISTRATION

SECTION 26010 IS ADDED TO THE BUSINESS AND PROFESSIONS CODE, TO READ:

26010.
There is in the Department of Consumer Affairs the Bureau of Cannabis Control, under the supervision and control of the director. The director shall administer and enforce the provisions of this division related to the bureau.

SECTION 26010.5 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26010.5.

(a) The Governor shall appoint a chief of the bureau, subject to confirmation by the Senate, at a salary to be fixed and determined by the Director of Consumer Affairs with the approval of the Director of Finance. The chief shall serve under the direction and supervision of the Director of Consumer Affairs and at the pleasure of the Governor.

(b) Every power granted to or duty imposed upon the Director of Consumer Affairs under this division may be exercised or performed in the name of the director by a deputy or assistant director or by the chief, subject to conditions and limitations that the director may prescribe. In addition to every power granted or duty imposed under this division, the director shall have all other powers and duties generally applicable in relation to bureaus that are part of the Department of Consumer Affairs.

(c) The Director of Consumer Affairs may employ and appoint all employees necessary to properly administer the work of the bureau, in accordance with civil service laws and regulations. The Governor may also appoint a deputy chief and an assistant chief counsel to the bureau. These positions shall hold office at the pleasure of the Governor.

(d) The bureau has the power, duty, purpose, responsibility, and jurisdiction to regulate commercial cannabis activity as provided in this division.

(e) The bureau and the director shall succeed to and are vested with all the duties, powers, purposes, responsibilities, and jurisdiction formerly vested in the Bureau of Marijuana Control, also formerly known as the Bureau of Medical Cannabis Regulation and the Bureau of Medical Marijuana Regulation, under the former Medical Cannabis Regulation and Safety Act (former Chapter 3.5 (commencing with Section 19300) of Division 8).

(f) Upon the effective date of this section, whenever “Bureau of Marijuana Control,” “Bureau of Medical Cannabis Regulation,” or “Bureau of Medical Marijuana Regulation” appears in any statute, regulation, or contract, or in any other code, it shall be construed to refer to the bureau.

(g) Upon the effective date of this section, whenever any reference to the “Medical Cannabis Regulation and Safety Act,” “Medical Marijuana Regulation and Safety Act,” or former Chapter 3.5 (commencing with Section 19300) of Division 8 appears in any statute, regulation, contract, or in any other code, it
Comprehensive
Medicinal and Adult-Use Cannabis Regulation and Safety Act
Senate Bill 94, Proposition 64, and Assembly Bill 133

shall be construed to refer to this division as it relates to medicinal cannabis and medicinal cannabis products.

SECTION 26011 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26011.
Neither the chief of the bureau nor any member of the Cannabis Control Appeals Panel established under Section 26040 shall do any of the following:
(a) Receive any commission or profit whatsoever, directly or indirectly, from any person applying for or receiving any license or permit under this division.
(b) Engage or have any interest in the sale or any insurance covering a licensee’s business or premises.
(c) Engage or have any interest in the sale of equipment for use upon the premises of a licensee engaged in commercial cannabis activity.
(d) Knowingly solicit any licensee for the purchase of tickets for benefits or contributions for benefits.
(e) Knowingly request any licensee to donate or receive money, or any other thing of value, for the benefit of any person whatsoever.

SECTION 26011.5 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26011.5.
The protection of the public shall be the highest priority for all licensing authorities in exercising licensing, regulatory, and disciplinary functions under this division. Whenever the protection of the public is inconsistent with other interests sought to be promoted, the protection of the public shall be paramount.

SECTION 26012 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26012.
(a) It being a matter of statewide concern, except as otherwise authorized in this division:
   (1) The bureau shall have the sole authority to create, issue, deny, renew, discipline, suspend, or revoke licenses for microbusinesses, transportation, storage unrelated to manufacturing activities, distribution, testing, and sale of cannabis and cannabis products within the state.
   (2) The Department of Food and Agriculture shall administer the provisions of this division related to and associated with the cultivation of cannabis. The Department of Food and Agriculture shall have the authority to create, issue, deny, and suspend or revoke cultivation licenses for violations of this division.
   (3) The State Department of Public Health shall administer the provisions of this division related to and associated with the manufacturing of cannabis products. The State Department of Public Health shall have the authority to create, issue, deny, and suspend or revoke manufacturing licenses for violations of this division.
(b) The licensing authorities shall have the authority to collect fees in connection with activities they regulate concerning cannabis. The licensing authorities may create licenses in addition to those identified in this division that the licensing authorities deem necessary to effectuate their duties under this division.
(c) For the performance of its duties, each licensing authority has the power conferred by Sections 11180 to 11191, inclusive, of the Government Code.
(d) Licensing authorities shall begin issuing licenses under this division by January 1, 2018.
SECTION 26013 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26013.
(a) Licensing authorities shall make and prescribe reasonable rules and regulations as may be necessary to implement, administer and enforce their respective duties under this division in accordance with Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code. Those rules and regulations shall be consistent with the purposes and intent of the Control, Regulate and Tax Adult Use of Marijuana Act.

(b) (1) Each licensing authority may adopt emergency regulations to implement this division.
(2) Each licensing authority may readopt any emergency regulation authorized by this section that is the same as, or substantially equivalent to, an emergency regulation previously adopted as authorized by this section. Any such readoption shall be limited to one time for each regulation.
(3) Notwithstanding any other law, the initial adoption of emergency regulations and the readoption of emergency regulations authorized by this section shall be deemed an emergency and necessary for the immediate preservation of the public peace, health, safety, or general welfare. The initial emergency regulations and the readopted emergency regulations authorized by this section shall be each submitted to the Office of Administrative Law for filing with the Secretary of State and shall remain in effect for no more than 180 days, by which time final regulations may be adopted.

(c) Regulations issued under this division shall be necessary to achieve the purposes of this division, based on best available evidence, and shall mandate only commercially feasible procedures, technology, or other requirements, and shall not unreasonably restrain or inhibit the development of alternative procedures or technology to achieve the same substantive requirements, nor shall such regulations make compliance so onerous that the operation under a cannabis license is not worthy of being carried out in practice by a reasonably prudent businessperson.

SECTION 26013.5 IS ADDED TO THE BUSINESS AND PROFESSIONS CODE, TO READ:

26013.5.
Notice of any action of a licensing authority required by this division to be given may be signed and given by the director of the licensing authority or an authorized employee of the licensing authority and may be made personally or in the manner prescribed by Section 1013 of the Code of Civil Procedure, or in the manner prescribed by Section 124 of this code.

SECTION 26014 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26014.
(a) The bureau shall convene an advisory committee to advise the licensing authorities on the development of standards and regulations pursuant to this division, including best practices and guidelines that protect public health and safety while ensuring a regulated environment for commercial cannabis activity that does not impose such barriers so as to perpetuate, rather than reduce and eliminate, the illicit market for cannabis.

(b) The advisory committee members shall include, but not be limited to, representatives of the cannabis industry, including medicinal cannabis, representatives of labor organizations, appropriate state and local agencies, persons who work directly with racially, ethnically, and economically diverse populations, public health experts, and other subject matter experts, including representatives from the Department of Alcoholic Beverage Control, with expertise in regulating commercial activity for adult-use intoxicating substances. The advisory committee members shall be determined by the director.

(c) Commencing on January 1, 2019, the advisory committee shall publish an annual public report describing its activities including, but not limited to, the recommendations the advisory committee made to the licensing authorities during the immediately preceding calendar year and whether those recommendations were implemented by the licensing authorities.
26015. A licensing authority may make or cause to be made such investigation as it deems necessary to carry out its duties under this division.

26016. For any hearing held pursuant to this division, except a hearing held under Chapter 4 (commencing with Section 26040), a licensing authority may delegate the power to hear and decide to an administrative law judge. Any hearing before an administrative law judge shall be pursuant to the procedures, rules, and limitations prescribed in Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code.

26017. In any hearing before a licensing authority pursuant to this division, the licensing authority may pay any person appearing as a witness at the hearing at the request of the licensing authority pursuant to a subpoena, his or her actual, necessary, and reasonable travel, food, and lodging expenses, not to exceed the amount authorized for state employees.

26018. A licensing authority may on its own motion at any time before a penalty assessment is placed into effect, and without any further proceedings, review the penalty, but such review shall be limited to its reduction.

CHAPTER 3. ENFORCEMENT

SECTION 26030 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26030. Grounds for disciplinary action include, but are not limited to, all of the following:
(a) Failure to comply with the provisions of this division or any rule or regulation adopted pursuant to this division.
(b) Conduct that constitutes grounds for denial of licensure pursuant to Chapter 2 (commencing with Section 480) of Division 1.5 or discipline of a license pursuant to Chapter 3 (commencing with Section 490) of Division 1.5.
(c) Any other grounds contained in regulations adopted by a licensing authority pursuant to this division.
(d) Failure to comply with any state law including, but not limited to, the payment of taxes as required under the Revenue and Taxation Code, except as provided for in this division or other California law.
(e) Knowing violations of any state or local law, ordinance, or regulation conferring worker protections or legal rights on the employees of a licensee.
(f) Failure to comply with the requirement of a local ordinance regulating commercial cannabis activity.
(g) The intentional and knowing sale of cannabis or cannabis products by an A-licensee to a person under 21 years of age.
(h) The intentional and knowing sale of medicinal cannabis or medicinal cannabis products by an M-licensee to a person without a physician’s recommendation.
(i) Failure to maintain safe conditions for inspection by a licensing authority.
(j) Failure to comply with any operating procedure submitted to the licensing authority pursuant to subdivision (b) of Section 26051.5.
(k) Failure to comply with license conditions established pursuant to subdivision (b) of Section 26060.1.

SECTION 26031 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26031. (a) Each licensing authority may suspend, revoke, place on probation with terms and conditions, or otherwise discipline licenses issued by that licensing authority and fine a licensee, after proper notice and hearing to the licensee, if the licensee is found to have committed any of the acts or omissions constituting grounds for disciplinary action. The disciplinary proceedings under this chapter shall be...
conducted in accordance with Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code, and the director of each licensing authority shall have all the powers granted therein.

(b) A licensing authority may suspend or revoke a license when a local agency has notified the licensing authority that a licensee within its jurisdiction is in violation of state rules and regulations relating to commercial cannabis activities, and the licensing authority, through an investigation, has determined that the violation is grounds for suspension or revocation of the license.

(c) Each licensing authority may take disciplinary action against a licensee for any violation of this division when the violation was committed by the licensee’s officers, directors, owners, agents, or employees while acting on behalf of the licensee or engaged in commercial cannabis activity.

(d) A licensing authority may recover the costs of investigation and enforcement of a disciplinary proceeding pursuant to Section 125.3 of this code.

(e) Upon suspension or revocation of a license, the licensing authority shall inform the bureau. The bureau shall then inform all other licensing authorities. Upon any other enforcement action against a licensee, the licensing authority shall notify all other licensing authorities.

Section 26032 of the Business and Professions Code is repealed.

SECTION 26032 IS ADDED TO THE BUSINESS AND PROFESSIONS CODE, TO READ:

26032.
(a) The actions of a licensee, its employees, and its agents are not unlawful under state law and shall not be an offense subject to arrest, prosecution, or other sanction under state law, or be subject to a civil fine or be a basis for seizure or forfeiture of assets under state law if they are all of the following:
   (1) Permitted pursuant to a state license.
   (2) Permitted pursuant to a local authorization, license, or permit issued by the local jurisdiction, if any.
   (3) Conducted in accordance with the requirements of this division and regulations adopted pursuant to this division.

(b) The actions of a person who, in good faith, allows his or her property to be used by a licensee, its employees, and its agents, as permitted pursuant to a state license and, if required by the applicable local ordinances, a local license or permit, are not unlawful under state law and shall not be an offense subject to arrest, prosecution, or other sanction under state law, or be subject to a civil fine or be a basis for seizure or forfeiture of assets under state law.

Section 26033 of the Business and Professions Code is repealed.

SECTION 26033 IS ADDED TO THE BUSINESS AND PROFESSIONS CODE, TO READ:

26033.
(a) A qualified patient, as defined in Section 11362.7 of the Health and Safety Code, who cultivates, possesses, stores, manufactures, or transports cannabis exclusively for his or her personal medical use but who does not provide, donate, sell, or distribute cannabis to any other person is not thereby engaged in commercial cannabis activity and is therefore exempt from the licensure requirements of this division.

(b) A primary caregiver who cultivates, possesses, stores, manufactures, transports, donates, or provides cannabis exclusively for the personal medical purposes of no more than five specified qualified patients for whom he or she is the primary caregiver within the meaning of Section 11362.7 of the Health and Safety Code, but who does not receive remuneration for these activities except for compensation in full compliance with subdivision (c) of Section 11362.765 of the Health and Safety Code, is exempt from the licensure requirements of this division.

Section 26034 of the Business and Professions Code is repealed.
SECTION 26034 IS ADDED TO THE BUSINESS AND PROFESSIONS CODE, TO READ:

26034. All accusations against licensees shall be filed by the licensing authority within five years after the performance of the act or omission alleged as the ground for disciplinary action; provided, however, that the foregoing provision shall not constitute a defense to an accusation alleging fraud or misrepresentation as a ground for disciplinary action. The cause for disciplinary action in that case shall not be deemed to have accrued until discovery, by the licensing authority, of the facts constituting the fraud or misrepresentation, and, in that case, the accusation shall be filed within five years after that discovery.

26035. The director shall designate the persons employed by the Department of Consumer Affairs for purposes of the administration and enforcement of this division. The director shall ensure that a sufficient number of employees are qualified peace officers for purposes of enforcing this division.

26036. Nothing in this division shall be interpreted to supersede or limit state agencies from exercising their existing enforcement authority, including, but not limited to, under the Fish and Game Code, the Food and Agricultural Code, the Government Code, the Health and Safety Code, the Public Resources Code, the Water Code, or the application of those laws.

26037. (a) The actions of a licensee, its employees, and its agents that are (1) permitted under a license issued under this division and any applicable local ordinances and (2) conducted in accordance with the requirements of this division and regulations adopted pursuant to this division, are not unlawful under state law and shall not be an offense subject to arrest, prosecution, or other sanction under state law, or be subject to a civil fine or be a basis for seizure or forfeiture of assets under state law.

(b) The actions of a person who, in good faith, allows his or her property to be used by a licensee, its employees, and its agents, as permitted pursuant to a state license and any applicable local ordinances, are not unlawful under state law and shall not be an offense subject to arrest, prosecution, or other sanction under state law, or be subject to a civil fine or be a basis for seizure or forfeiture of assets under state law.

SECTION 26038 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26038. (a) A person engaging in commercial cannabis activity without a license required by this division shall be subject to civil penalties of up to three times the amount of the license fee for each violation, and the court may order the destruction of cannabis associated with that violation in accordance with Section 11479 of the Health and Safety Code. Each day of operation shall constitute a separate violation of this section. All civil penalties imposed and collected pursuant to this section by a licensing authority shall be deposited into the General Fund except as provided in subdivision (b). A violator shall be responsible for the cost of the destruction of cannabis associated with his or her violation.

(b) If an action for civil penalties is brought against a person pursuant to this division by the Attorney General on behalf of the people, the penalty collected shall be deposited into the General Fund. If the action is brought by a district attorney or county counsel, the penalty shall first be used to reimburse the district attorney or county counsel for the costs of bringing the action for civil penalties, with the remainder, if any, to be deposited into the General Fund. If the action is brought by a city attorney or city prosecutor, the penalty collected shall first be used to reimburse the city attorney or city prosecutor for the costs of bringing the action for civil penalties, with the remainder, if any, to be deposited into the General Fund.

(c) Notwithstanding subdivision (a), criminal penalties shall continue to apply to an unlicensed person engaging in commercial cannabis activity in violation of this division.
CHAPTER 4. APPEALS

SECTION 26040 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26040. (a) (1) There is established in state government a Cannabis Control Appeals Panel which shall consist of the following members:
   (A) One member appointed by the Senate Committee on Rules.
   (B) One member appointed by the Speaker of the Assembly.
   (C) Three members appointed by the Governor and subject to confirmation by a majority vote of all of the members elected to the Senate.
   (2) Each member, at the time of his or her initial appointment, shall be a resident of a different county from the one in which either of the other members resides. Members of the panel shall receive an annual salary as provided for by Chapter 6 (commencing with Section 11550) of Part 1 of Division 3 of Title 2 of the Government Code.

(b) The members of the panel appointed pursuant to subparagraph (C) of paragraph (1) of subdivision (a) may be removed from office by the Governor, and the Legislature shall have the power, by a majority vote of all members elected to each house, to remove any member of the panel from office for dereliction of duty, corruption, or incompetency.

(c) A concurrent resolution for the removal of any member of the panel may be introduced in the Legislature only if 5 Members of the Senate, or 10 Members of the Assembly, join as authors.

26041. All personnel of the panel shall be appointed, employed, directed, and controlled by the panel consistent with state civil service requirements. The director shall furnish the equipment, supplies, and housing necessary for the authorized activities of the panel and shall perform such other mechanics of administration as the panel and the director may agree upon.

26042. The panel shall adopt procedures for appeals similar to the procedures used in Article 3 (commencing with Section 23075) and Article 4 (commencing with Section 23080) of Chapter 1.5 of Division 9 of the Business and Professions Code. Such procedures shall be adopted in accordance with the Administrative Procedure Act (Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code).

SECTION 26043 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26043. (a) After proceedings pursuant to Section 26031 or 26058 or Chapter 2 (commencing with Section 480) or Chapter 3 (commencing with Section 490) of Division 1.5, any person aggrieved by the decision of a licensing authority denying the person's application for any license, denying the person's renewal of any license, placing any license on probation, imposing any condition on any license, imposing any fine on any license, assessing any penalty on any license, or canceling, suspending, revoking, or otherwise disciplining any license as provided for under this division, may appeal the licensing authority's written decision to the panel.

(b) The panel shall review the decision subject to such limitations as may be imposed by the Legislature. In such cases, the panel shall not receive evidence in addition to that considered by the licensing authority.

(c) Review by the panel of a decision of a licensing authority shall be limited to the following questions:
   (1) Whether the licensing authority has proceeded without or in excess of its jurisdiction.
   (2) Whether the licensing authority has proceeded in the manner required by law.
   (3) Whether the decision is supported by the findings.
   (4) Whether the findings are supported by substantial evidence in the light of the whole record.

September 18, 2017 – This document may not contain the most recent statute language
Page | 11
SECTION 26044 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26044.
(a) In appeals where the panel finds that there is relevant evidence which, in the exercise of reasonable diligence, could not have been produced or which was improperly excluded at the hearing before the licensing authority, it may enter an order remanding the matter to the licensing authority for reconsideration in the light of that evidence.
(b) Except as provided in subdivision (a), in all appeals, the panel shall enter an order either affirming or reversing the decision of the licensing authority. When the order reverses the decision of the licensing authority, the panel may direct the reconsideration of the matter in the light of its order and may direct the licensing authority to take such further action as is specially enjoined upon it by law, but the order shall not limit or control in any way the discretion vested by law in the licensing authority.

Section 26045 of the Business and Professions Code is repealed.

SECTION 26045 IS ADDED TO THE BUSINESS AND PROFESSIONS CODE, TO READ:

26045.
(a) No court of this state, except the Supreme Court and the courts of appeal to the extent specified in this chapter, shall have jurisdiction to review, affirm, reverse, correct, or annul any order, rule, or decision of a licensing authority or to suspend, stay, or delay the operation or execution thereof, or to restrain, enjoin, or interfere with a licensing authority in the performance of its duties, but a writ of mandate shall lie from the Supreme Court or the courts of appeal in any proper case.
(b) Any person affected by a final order of the panel, including a licensing authority, may apply to the Supreme Court or to the court of appeal for the appellate district in which the proceeding arose, for a writ of review of that final order.
(c) The application for writ of review shall be made within 30 days after filing of the final order.
(d) The provisions of the Code of Civil Procedure relating to writs of review shall, insofar as applicable, apply to proceedings in the courts as provided by this chapter. A copy of every pleading filed pursuant to this chapter shall be served on the panel, the licensing authority, and on each party who entered an appearance before the panel.
(e) No decision of a licensing authority that has been appealed to the panel and no final order of the panel shall become effective during the period in which application may be made for a writ of review, as provided by subdivision (c).
(f) The filing of a petition for, or the pendency of, a writ of review shall not of itself stay or suspend the operation of any order, rule, or decision of a licensing authority, but the court before which the petition is filed may stay or suspend, in whole or in part, the operation of the order, rule, or decision of the licensing authority subject to review, upon the terms and conditions which it by order directs.

SECTION 26046 IS ADDED TO THE BUSINESS AND PROFESSIONS CODE, TO READ:

26046.
(a) The review by the court shall not extend further than to determine, based on the whole record of the licensing authority as certified by the panel, whether:
(1) The licensing authority has proceeded without or in excess of its jurisdiction.
(2) The licensing authority has proceeded in the manner required by law.
(3) The decision of the licensing authority is supported by the findings.
(4) The findings in the licensing authority’s decision are supported by substantial evidence in the light of the whole record.
(5) There is relevant evidence which, in the exercise of reasonable diligence, could not have been produced or which was improperly excluded at the hearing before the licensing authority.
(b) Nothing in this chapter shall permit the court to hold a trial de novo, to take evidence, or to exercise its independent judgment on the evidence.
26047.
The findings and conclusions of the licensing authority on questions of fact are conclusive and final and
are not subject to review. Those questions of fact shall include ultimate facts and the findings and
conclusions of the licensing authority. The panel, the licensing authority, and each party to the action or
proceeding before the panel shall have the right to appear in the review proceeding. Following the
hearing, the court shall enter judgment either affirming or reversing the decision of the licensing authority,
or the court may remand the case for further proceedings before or reconsideration by the licensing
authority.

CHAPTER 5. LICENSING

SECTION 26050 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26050.
(a) The license classification pursuant to this division shall, at a minimum, be as follows:
   (1) Type 1—Cultivation; Specialty outdoor; Small.
   (2) Type 1A—Cultivation; Specialty indoor; Small.
   (3) Type 1B—Cultivation; Specialty mixed-light; Small.
   (4) Type 1C—Cultivation; Specialty cottage; Small.
   (5) Type 2—Cultivation; Outdoor; Small.
   (6) Type 2A—Cultivation; Indoor; Small.
   (7) Type 2B—Cultivation; Mixed-light; Small.
   (8) Type 3—Cultivation; Outdoor; Medium.
   (9) Type 3A—Cultivation; Indoor; Medium.
   (10) Type 3B—Cultivation; Mixed-light; Medium.
   (11) Type 4—Cultivation; Nursery.
   (12) Type 5—Cultivation; Outdoor; Large.
   (13) Type 5A—Cultivation; Indoor; Large.
   (14) Type 5B—Cultivation; Mixed-light; Large.
   (15) Type 6—Manufacturer 1.
   (16) Type 7—Manufacturer 2.
   (17) Type 8—Testing laboratory.
   (18) Type 10—Retailer.
   (19) Type 11—Distributor.
   (20) Type 12—Microbusiness.

(b) With the exception of testing laboratory licenses, which may be used to test cannabis and cannabis
products regardless of whether they are intended for use by individuals who possesses a physician’s
recommendation, all licenses issued under this division shall bear a clear designation indicating
whether the license is for commercial adult-use cannabis activity as distinct from commercial
medicinal cannabis activity by prominently affixing an “A” or “M,” respectively. Examples of such a
designation include, but are not limited to, “A-Type 1” or “M-Type 1.” Except as specifically specified
in this division, the requirements for A-licenses and M-licenses shall be the same. For testing
laboratories, the bureau shall create a license that indicates a testing laboratory may test both adult-
use and medicinal cannabis.

(c) A license issued pursuant to this division shall be valid for 12 months from the date of issuance. The
license may be renewed annually.

(d) Each licensing authority shall establish procedures for the issuance and renewal of licenses.
SECTION 26050.1 IS ADDED TO THE BUSINESS AND PROFESSIONS CODE, TO READ:

26050.1. (a) Notwithstanding subdivision (c) of Section 26050, until January 1, 2019, a licensing authority may, in its sole discretion, issue a temporary license if the applicant submits all of the following:
   (1) A written request to the licensing authority in a manner prescribed by the licensing authority.
   (2) A copy of a valid license, permit, or other authorization, issued by a local jurisdiction, that enables the applicant to conduct commercial cannabis activity at the location requested for the temporary license.
   (3) The temporary license application fee, if any, required by the licensing authority.
(b) Temporary licenses issued pursuant to this section are subject to the following conditions:
   (1) Except as provided for in paragraph (4) below, the temporary license shall be valid for a period of 120 days and may be extended for additional 90-day periods at the discretion of the licensing authority. Temporary licenses shall only be eligible for an extension of the expiration date if the applicant has submitted a complete application for licensure pursuant to regulations adopted under this division.
   (2) A temporary license is a conditional license and authorizes the holder thereof to engage in commercial cannabis activity as would be permitted under the privileges of the license for which the applicant has submitted an application to the licensing authority.
   (3) Refusal by the licensing authority to issue or extend a temporary license shall not entitle the applicant to a hearing or appeal of the decision. Chapter 2 (commencing with Section 480) of Division 1.5 and Chapter 4 (commencing with Section 26040) of this division shall not apply to temporary licenses.
   (4) A temporary license does not obligate the licensing authority to issue a nontemporary license nor does the temporary license create a vested right in the holder to either an extension of the temporary license or to the granting of a subsequent nontemporary license.
(c) This section shall remain in effect only until January 1, 2019, and as of that date is repealed.

Section 26051 of the Business and Professions Code is repealed.

SECTION 26051 IS ADDED TO THE BUSINESS AND PROFESSIONS CODE, TO READ:

26051. (a) The Cartwright Act, the Unfair Practices Act, the Unfair Competition Law, and the other provisions of Part 2 (commencing with Section 16600) of Division 7 apply to all licensees regulated under this division.
(b) It shall be unlawful for any person to monopolize, or attempt to monopolize, or to combine or conspire with any person or persons, to monopolize any part of the trade or commerce related to cannabis. The Attorney General shall have the sole authority to enforce the provisions of this subdivision.
(c) In determining whether to grant, deny, or renew a license for a retail license, microbusiness license, or a license issued under Section 26070.5, the bureau shall consider if an excessive concentration exists in the area where the licensee will operate. For purposes of this section "excessive concentration" applies when either of the following conditions exist:
   (1) The ratio of a licensee to population in the census tract or census division in which the applicant premises are located exceeds the ratio of licensees to population in the county in which the applicant premises are located, unless denial of the application would unduly limit the development of the legal market so as to perpetuate the illegal market for cannabis or cannabis products.
   (2) The ratio of retail licenses, microbusiness licenses, or licenses under Section 26070.5 to the population in the census tract, census division, or jurisdiction exceeds that allowable by local ordinance adopted under Section 26200.
SECTION 26051.5 IS ADDED TO THE BUSINESS AND PROFESSIONS CODE, TO READ:

26051.5. An applicant for any type of state license issued pursuant to this division shall do all of the following:

(a) Require that each owner of the applicant electronically submit to the Department of Justice fingerprint images and related information required by the Department of Justice for the purpose of obtaining information as to the existence and content of a record of state or federal convictions and arrests, and information as to the existence and content of a record of state or federal convictions and arrests for which the Department of Justice establishes that the person is free on bail or on his or her own recognizance, pending trial or appeal.

(A) The Department of Justice shall provide a response to the licensing authority pursuant to paragraph (1) of subdivision (p) of Section 11105 of the Penal Code.

(B) The licensing authority shall request from the Department of Justice subsequent notification service, as provided pursuant to Section 11105.2 of the Penal Code, for applicants.

(C) The Department of Justice shall charge the applicant a fee sufficient to cover the reasonable cost of processing the requests described in this paragraph.

(b) An applicant shall also include in the application a detailed description of the applicant’s operating procedures for all of the following, as required by the licensing authority:

(1) Cultivation.

(2) Extraction and infusion methods.

(3) The transportation process.

(4) Inventory procedures.

(5) Quality control procedures.

(6) Security protocols.
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Medicinal and Adult-Use Cannabis Regulation and Safety Act
Senate Bill 94, Proposition 64, and Assembly Bill 133

(7) For applicants seeking licensure to cultivate, the source or sources of water the applicant will use for cultivation, as provided in subdivisions (a) to (c), inclusive, of Section 26060.1. For purposes of this paragraph, “cultivation” as used in Section 26060.1 shall have the same meaning as defined in Section 26001. The Department of Food and Agriculture shall consult with the State Water Resources Control Board and the Department of Fish and Wildlife in the implementation of this paragraph.

(c) The applicant shall also provide a complete detailed diagram of the proposed premises wherein the license privileges will be exercised, with sufficient particularity to enable ready determination of the bounds of the premises, showing all boundaries, dimensions, entrances and exits, interior partitions, walls, rooms, and common or shared entryways, and include a brief statement or description of the principal activity to be conducted therein, and, for licenses permitting cultivation, measurements of the planned canopy, including aggregate square footage and individual square footage of separate cultivation areas, if any, roads, water crossings, points of diversion, water storage, and all other facilities and infrastructure related to the cultivation.

(d) Provide a complete list of every person with a financial interest in the person applying for the license as required by the licensing authority. For purposes of this subdivision, “persons with a financial interest” does not include persons whose only interest in a licensee is an interest in a diversified mutual fund, blind trust, or similar instrument.

SECTION 26052 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26052.
(a) A licensee shall not perform any of the following acts, or permit any of the following acts to be performed by any employee, agent, or contractor of the licensee:

(1) Make any contract in restraint of trade in violation of Section 16600.
(2) Form a trust or other prohibited organization in restraint of trade in violation of Section 16720.
(3) Make a sale or contract for the sale of cannabis or cannabis products, or to fix a price charged therefor, or discount from, or rebate upon, that price, on the condition, agreement, or understanding that the consumer or purchaser thereof shall not use or deal in the goods, merchandise, machinery, supplies, commodities, or services of a competitor or competitors of the seller, where the effect of that sale, contract, condition, agreement, or understanding may be to substantially lessen competition or tend to create a monopoly in any line of trade or commerce.
(4) Sell any cannabis or cannabis products at less than cost for the purpose of injuring competitors, destroying competition, or misleading or deceiving purchasers or prospective purchasers.
(5) Discriminate between different sections, communities, or cities or portions thereof, or between different locations in those sections, communities, or cities or portions thereof in this state, by selling or furnishing cannabis or cannabis products at a lower price in one section, community, or city or any portion thereof, or in one location in that section, community, or city or any portion thereof, than in another, for the purpose of injuring competitors or destroying competition.
(6) Sell any cannabis or cannabis products at less than the cost thereof to such vendor, or to give away any article or product for the purpose of injuring competitors or destroying competition.

(b) Any person who, either as director, officer, or agent of any firm or corporation, or as agent of any person, violates the provisions of this chapter, or assists or aids, directly or indirectly, in that violation is responsible therefor equally with the person, firm, or corporation for which that person acts.

(c) Any person or trade association may bring an action to enjoin and restrain any violation of this section for the recovery of damages.
SECTION 26053 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26053.
(a) All commercial cannabis activity shall be conducted between licensees, except as otherwise provided in this division.

(b) A person that holds a state testing laboratory license under this division is prohibited from licensure for any other activity, except testing, as authorized under this division. A person that holds a state testing laboratory license shall not employ an individual who is also employed by any other licensee that does not hold a state testing laboratory license.

(c) Except as provided in subdivision (b), a person may apply for and be issued more than one license under this division.

(d) Each applicant or licensee shall apply for, and if approved, shall obtain, a separate license for each location where it engages in commercial cannabis activity.

SECTION 26054 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26054.
(a) A licensee shall not sell alcoholic beverages or tobacco products on or at any premises licensed under this division.

(b) A premises licensed under this division shall not be located within a 600-foot radius of a school providing instruction in kindergarten or any grades 1 through 12, day care center, or youth center that is in existence at the time the license is issued, unless a licensing authority or a local jurisdiction specifies a different radius. The distance specified in this section shall be measured in the same manner as provided in subdivision (c) of Section 11362.768 of the Health and Safety Code unless otherwise provided by law.

(c) It shall not be a violation of state or local law for a business engaged in the manufacture of cannabis accessories to possess, transport, purchase, or otherwise obtain small amounts of cannabis or cannabis products as necessary to conduct research and development related to the cannabis accessories, provided the cannabis and cannabis products are obtained from a person licensed under this division permitted to provide or deliver the cannabis or cannabis products.

(d) It shall not be a violation of state or local law for an agent of a licensing authority to possess, transport, or obtain cannabis or cannabis products as necessary to conduct activities reasonably related to the duties of the licensing authority.

Section 26054.1 of the Business and Professions Code is repealed.

SECTION 26054.2 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26054.2.
(a) A licensing authority shall give priority in issuing licenses under this division to applicants that can demonstrate to the authority's satisfaction that the applicant operated in compliance with the Compassionate Use Act of 1996 (Section 11362.5 of the Health and Safety Code) and its implementing laws before September 1, 2016.

(b) The licensing authorities shall request that local jurisdictions identify for the licensing authorities potential applicants for licensure based on the applicants' prior operation in the local jurisdiction in compliance with state law, including the Compassionate Use Act of 1996 (Section 11362.5 of the Health and Safety Code) and its implementing laws, and any applicable local laws.

(c) In addition to or in lieu of the information described in subdivision (b), an applicant may furnish other evidence as deemed appropriate by the licensing authority to demonstrate operation in compliance with the Compassionate Use Act of 1996 (Section 11362.5 of the Health and Safety Code). The licensing authorities may accept such evidence to demonstrate eligibility for the priority provided for in subdivision (a).
(d) This section shall cease to be operative on December 31, 2019, unless otherwise provided by law.

SECTION 26055 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26055.
(a) Licensing authorities may issue state licenses only to qualified applicants.
(b) Revocation of a state license issued under this division shall terminate the ability of the licensee to operate pursuant to that license within California until a new license is obtained.
(c) A licensee shall not change or alter the premises in a manner which materially or substantially alters the premises, the usage of the premises, or the mode or character of business operation conducted from the premises, from the plan contained in the diagram on file with the application, unless and until written approval by the licensing authority has been obtained. For purposes of this section, material or substantial physical changes of the premises, or in the usage of the premises, shall include, but not be limited to, a substantial increase or decrease in the total area of the licensed premises previously diagrammed, or any other physical modification resulting in substantive change in the mode or character of business operation.
(d) Licensing authorities shall not approve an application for a state license under this division if approval of the state license will violate the provisions of any local ordinance or regulation adopted in accordance with Section 26200.
(e) An applicant may voluntarily provide proof of a license, permit, or other authorization from the local jurisdiction verifying that the applicant is in compliance with the local jurisdiction. An applicant that voluntarily submits a valid, unexpired license, permit, or other authorization from the local jurisdiction shall be presumed to be in compliance with all local ordinances unless the licensing authority is notified otherwise by the local jurisdiction. The licensing authority shall notify the contact person for the local jurisdiction of any applicant that voluntarily submits a valid, unexpired license, permit, or other authorization from the local jurisdiction.
(f) (1) A local jurisdiction shall provide to the bureau a copy of any ordinance or regulation related to commercial cannabis activity and the name and contact information for the person who will serve as the contact for state licensing authorities regarding commercial cannabis activity within the jurisdiction. If a local jurisdiction does not provide a contact person, the bureau shall assume that the clerk of the legislative body of the local jurisdiction is the contact person.
(2) Whenever there is a change in a local ordinance or regulation adopted pursuant to Section 26200 or a change in the contact person for the jurisdiction, the local jurisdiction shall provide that information to the bureau.
(3) The bureau shall share the information required by this subdivision with the other licensing authorities.
(g) (1) The licensing authority shall deny an application for a license under this division for a commercial cannabis activity that the local jurisdiction has notified the bureau is prohibited in accordance with subdivision (f). The licensing authority shall notify the contact person for the local jurisdiction of each application denied due to the local jurisdictions indication that the commercial cannabis activity for which a license is sought is prohibited by a local ordinance or regulation.
(2) Prior to issuing a state license under this division for any commercial cannabis activity, if an applicant has not provided adequate proof of compliance with local laws pursuant to subdivision (e):
(A) The licensing authority shall notify the contact person for the local jurisdiction of the receipt of an application for commercial cannabis activity within their jurisdiction.
(B) A local jurisdiction may notify the licensing authority that the applicant is not in compliance with a local ordinance or regulation. In this instance, the licensing authority shall deny the application.
(C) A local jurisdiction may notify the licensing authority that the applicant is in compliance with all applicable local ordinances and regulations. In this instance, the licensing authority may proceed with the licensing process.
(D) If the local jurisdiction does not provide notification of compliance or noncompliance with applicable local ordinances or regulations, or otherwise does not provide notification indicating that the completion of the local permitting process is still pending, within 60 business days of...
receiving the inquiry from a licensing authority submitted pursuant to subparagraph (A), the
licensing authority shall make a rebuttable presumption that the applicant is in compliance with
all local ordinances and regulations adopted in accordance with Section 26200, except as
provided in subparagraphs (E) and (F).
(E) At any time after expiration of the 60-business-day period set forth in subparagraph (D), the
local jurisdiction may provide written notification to the licensing authority that the applicant or
licensee is not in compliance with a local ordinance or regulation adopted in accordance with
Section 26200. Upon receiving this notification, the licensing authority shall not presume that
the applicant or licensee has complied with all local ordinances and regulations adopted in
accordance with Section 26200, and may commence disciplinary action in accordance with
Chapter 3 (commencing with Section 26030). If the licensing authority does not take action
against the licensee before the time of the renewal of the license, the license shall not be
renewed until and unless the local jurisdiction notifies the licensing authority that the licensee
is once again in compliance with local ordinances.
(F) A presumption by a licensing authority pursuant to this paragraph that an applicant has
complied with all local ordinances and regulations adopted in accordance with Section 26200
shall not prevent, impair, or preempt the local government from enforcing all applicable local
ordinances or regulations against the applicant, nor shall the presumption confer any right,
vested or otherwise, upon the applicant to commence or continue operating in any local
jurisdiction except in accordance with all local ordinances or regulations.
(3) For purposes of this section, “notification” includes written notification or access by a licensing
authority to a local jurisdiction’s registry, database, or other platform designated by a local
jurisdiction, containing information specified by the licensing authority, on applicants to determine
local compliance.
(h) Without limiting any other statutory exemption or categorical exemption, Division 13 (commencing with
Section 21000) of the Public Resources Code does not apply to the adoption of an ordinance, rule, or
regulation by a local jurisdiction that requires discretionary review and approval of permits, licenses, or
other authorizations to engage in commercial cannabis activity. To qualify for this exemption, the
discretionary review in any such law, ordinance, rule, or regulation shall include any applicable
environmental review pursuant to Division 13 (commencing with Section 21000) of the Public
Resources Code. This subdivision shall become inoperative on July 1, 2019.

(i) A local or state public agency may charge and collect a fee from a person proposing a project
pursuant to subdivision (a) of Section 21089 of the Public Resources Code.

Section 26056 of the Business and Professions Code is repealed.

Section 26056.5 of the Business and Professions Code is repealed.

SECTION 26056 IS ADDED TO THE BUSINESS AND PROFESSIONS CODE, TO READ:

26056. The requirements of Sections 13143.9, 13145, and 13146 of the Health and Safety Code shall apply to all
licensees.

SECTION 26057 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26057. (a) The licensing authority shall deny an application if either the applicant, or the premises for which a
state license is applied, do not qualify for licensure under this division.

(b) The licensing authority may deny the application for licensure or renewal of a state license if any of
the following conditions apply:
   (1) Failure or inability to comply with the provisions of this division, any rule or regulation adopted
   pursuant to this division, or any requirement imposed to protect natural resources, including, but
   not limited to, protections for instream flow, water quality, and fish and wildlife.

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Medicinal and Adult-Use Cannabis Regulation and Safety Act
Senate Bill 94, Proposition 64, and Assembly Bill 133

(2) Conduct that constitutes grounds for denial of licensure under Chapter 2 (commencing with Section 480) of Division 1.5, except as otherwise specified in this section and Section 26059.

(3) Failure to provide information required by the licensing authority.

(4) The applicant, owner, or licensee has been convicted of an offense that is substantially related to the qualifications, functions, or duties of the business or profession for which the application is made, except that if the licensing authority determines that the applicant, owner, or licensee is otherwise suitable to be issued a license, and granting the license would not compromise public safety, the licensing authority shall conduct a thorough review of the nature of the crime, conviction, circumstances, and evidence of rehabilitation of the applicant or owner, and shall evaluate the suitability of the applicant, owner, or licensee to be issued a license based on the evidence found through the review. In determining which offenses are substantially related to the qualifications, functions, or duties of the business or profession for which the application is made, the licensing authority shall include, but not be limited to, the following:

(A) A violent felony conviction, as specified in subdivision (c) of Section 667.5 of the Penal Code.

(B) A serious felony conviction, as specified in subdivision (c) of Section 1192.7 of the Penal Code.

(C) A felony conviction involving fraud, deceit, or embezzlement.

(D) A felony conviction for hiring, employing, or using a minor in transporting, carrying, selling, giving away, preparing for sale, or peddling, any controlled substance to a minor; or selling, offering to sell, furnishing, offering to furnish, administering, or giving any controlled substance to a minor.

(E) A felony conviction for drug trafficking with enhancements pursuant to Section 11370.4 or 11379.8 of the Health and Safety Code.

(5) Except as provided in subparagraphs (D) and (E) of paragraph (4) and notwithstanding Chapter 2 (commencing with Section 480) of Division 1.5, a prior conviction, where the sentence, including any term of probation, incarceration, or supervised release, is completed, for possession of, possession for sale, sale, manufacture, transportation, or cultivation of a controlled substance is not considered substantially related, and shall not be the sole ground for denial of a license. Conviction for any controlled substance felony subsequent to licensure shall be grounds for revocation of a license or denial of the renewal of a license.

(6) The applicant, or any of its officers, directors, or owners, has been subject to fines, penalties, or otherwise been sanctioned for cultivation or production of a controlled substance on public or private lands pursuant to Section 12025 or 12025.1 of the Fish and Game Code.

(7) The applicant, or any of its officers, directors, or owners, has been sanctioned by a licensing authority or a city, county, or city and county for unauthorized commercial cannabis activities, has had a license suspended or revoked under this division in the three years immediately preceding the date the application is filed with the licensing authority.

(8) Failure to obtain and maintain a valid seller's permit required pursuant to Part 1 (commencing with Section 6001) of Division 2 of the Revenue and Taxation Code.

(9) Any other condition specified in law.

SECTION 26058 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26058.
Upon the denial of any application for a license, the licensing authority shall notify the applicant in writing. Within 30 days of service of the notice, the applicant may file a written petition for a license with the licensing authority. Upon receipt of a timely filed petition, the licensing authority shall set the petition for hearing. The hearing shall be conducted in accordance with Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code, and the director of each licensing authority shall have all the powers granted therein. Any appeal from a final decision of the licensing authority shall be conducted in accordance with Chapter 4 (commencing with Section 26040).
An applicant shall not be denied a state license if the denial is based solely on any of the following:

(a) A conviction or act that is substantially related to the qualifications, functions, or duties of the business or profession for which the application is made for which the applicant or licensee has obtained a certificate of rehabilitation pursuant to Chapter 3.5 (commencing with Section 4852.01) of Title 6 of Part 3 of the Penal Code.

(b) A conviction that was subsequently dismissed pursuant to Section 1203.4, 1203.4a, or 1203.41 of the Penal Code or any other provision allowing for dismissal of a conviction.

CHAPTER 6. LICENSED CULTIVATION SITES

SECTION 26060 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26060.

(a) Regulations issued by the Department of Food and Agriculture governing the licensing of indoor, outdoor, nursery, special cottage, and mixed-light cultivation sites shall apply to licensed cultivators under this division. The Department of Food and Agriculture shall have the authority necessary for the implementation of the regulations it adopts pursuant to this division, including regulations governing the licensing of indoor, outdoor, mixed-light cultivation site, nursery, and special cottage cultivation.

(b) The regulations shall do all of the following:

(1) Provide that weighing or measuring devices used in connection with the sale or distribution of cannabis are required to meet standards equivalent to Division 5 (commencing with Section 12001).

(2) Require that cannabis cultivation by licensees is conducted in accordance with state and local laws.

(3) Establish procedures for the issuance and revocation of unique identifiers for activities associated with a cannabis cultivation license, pursuant to Chapter 6.5 (commencing with Section 26067). All cannabis shall be labeled with the unique identifier issued by the Department of Food and Agriculture.

(4) Prescribe standards, in consultation with the bureau, for the reporting of information as necessary related to unique identifiers pursuant to Chapter 6.5 (commencing with Section 26067).

(c) The Department of Food and Agriculture shall serve as the lead agency for purposes of the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) related to the licensing of cannabis cultivation.

(d) The Department of Pesticide Regulation shall develop guidelines for the use of pesticides in the cultivation of cannabis and residue in harvested cannabis.

(e) A cannabis cultivator shall not use any pesticide that has been banned for use in the state.

(f) The regulations promulgated by the Department of Food and Agriculture under this division shall implement the requirements of subdivision (b) of Section 26060.1.

(g) The Department of Pesticide Regulation shall require that the application of pesticides or other pest control in connection with the indoor, outdoor, nursery, specialty cottage, or mixed-light cultivation of cannabis complies with Division 6 (commencing with Section 11401) of the Food and Agricultural Code and its implementing regulations.

SECTION 26060.1 IS ADDED TO THE BUSINESS AND PROFESSIONS CODE, TO READ:

26060.1.

(a) An application for a license for cultivation issued by the Department of Food and Agriculture shall identify the source of water supply as follows:

(1) (A) If water will be supplied by a retail water supplier, as defined in Section 13575 of the Water Code, the application shall identify the retail water supplier.

(B) Paragraphs (2) and (3) do not apply to any water subject to subparagraph (A) unless the retail water supplier has 10 or fewer customers, the applicant receives 10 percent or more of the water supplied by the retail water supplier, 25 percent or more of the water delivered by the retail water supplier.
supplier is used for cannabis cultivation, or the applicant and the retail water supplier are affiliates, as defined in Section 2814.20 of Title 23 of the California Code of Regulations.

(2) If the water supply includes a diversion within the meaning of Section 5100 of the Water Code, the application shall identify the point of diversion and the maximum amount to be diverted as follows:

(A) For an application submitted before January 1, 2019, the application shall include a copy of one of the following:

(i) A small irrigation use registration certificate, permit, or license issued pursuant to Part 2 (commencing with Section 1200) of Division 2 of the Water Code that covers the diversion.

(ii) A statement of water diversion and use filed with the State Water Resources Control Board on or before October 31, 2017, that covers the diversion and specifies the amount of water used for cannabis cultivation.

(iii) A pending application for a permit to appropriate water, filed with the State Water Resources Control Board on or before October 31, 2017.

(iv) Documentation submitted to the State Water Resources Control Board on or before January 1, 2019, demonstrating that the diversion is subject to subdivision (a), (c), (d), or (e) of Section 5101 of the Water Code.

(v) Documentation submitted to the State Water Resources Control Board on or before October 31, 2017, demonstrating that the diversion is authorized under a riparian right and that no diversion occurred after January 1, 2010, and before January 1, 2017. The documentation shall be submitted on or accompany a form provided by the State Water Resources Control Board and shall include all of the information outlined in subdivisions (a) to (d), inclusive, and (e) of Section 5103 of the Water Code. The documentation shall also include a general description of the area in which the water will be used in accordance with subdivision (g) of Section 5103 of the Water Code and the year in which the diversion is planned to commence.

(B) For an application submitted after December 31, 2018, the application shall include a copy of one of the following:

(i) A small irrigation use registration certificate, permit, or license issued pursuant to Part 2 (commencing with Section 1200) of Division 2 of the Water Code that covers the diversion.

(ii) A statement of water diversion and use filed with the State Water Resources Control Board that covers the diversion and specifies the amount of water used for cannabis cultivation.

(iii) Documentation submitted to the State Water Resources Control Board demonstrating that the diversion is subject to subdivision (a), (c), (d), or (e) of Section 5101 of the Water Code.

(iv) Documentation submitted to the State Water Resources Control Board demonstrating that the diversion is authorized under a riparian right and that no diversion occurred after January 1, 2010, and in the calendar year in which the application is submitted. The documentation shall be submitted on or accompany a form provided by the State Water Resources Control Board and shall include all of the information outlined in subdivisions (a) to (d), inclusive, and (e) of Section 5103 of the Water Code. The documentation shall also include a general description of the area in which the water will be used in accordance with subdivision (g) of Section 5103 of the Water Code and the year in which the diversion is planned to commence.

(3) If water will be supplied from a groundwater extraction not subject to paragraph (2), the application shall identify the location of the extraction and the maximum amount to be diverted for cannabis cultivation in any year.

(b) The Department of Food and Agriculture shall include in any license for cultivation all of the following:

(1) Conditions requested by the Department of Fish and Wildlife and the State Water Resources Control Board to (A) ensure that individual and cumulative effects of water diversion and discharge associated with cultivation do not affect the instream flows needed for fish spawning, migration, and rearing, and the flows needed to maintain natural flow variability; (B) ensure that cultivation does not negatively impact springs, riparian habitat, wetlands, or aquatic habitat; and (C) otherwise protect fish, wildlife, fish and wildlife habitat, and water quality. The conditions shall include, but not be limited to, the principles, guidelines, and requirements established pursuant to Section 13149 of the Water Code.

(2) Any relevant mitigation requirements the Department of Food and Agriculture identifies as part of its approval of the final environmental documentation for the cannabis cultivation licensing program as requirements that should be included in a license for cultivation. Chapter 3.5
(commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code does not apply to the identification of these mitigation measures. This paragraph does not reduce any requirements established pursuant to Division 13 (commencing with Section 21000) of the Public Resources Code.

(3) A condition that the license shall not be effective until the licensee has demonstrated compliance with Section 1602 of the Fish and Game Code or receives written verification from the Department of Fish and Wildlife that a streambed alteration agreement is not required.

(c) The Department of Food and Agriculture shall consult with the State Water Resources Control Board and the Department of Fish and Wildlife in the implementation of this section.

(d) Notwithstanding paragraph (1) of subdivision (b), the Department of Food and Agriculture is not responsible for verifying compliance with the conditions requested or imposed by the Department of Fish and Wildlife or the State Water Resources Control Board. The Department of Fish and Wildlife or the State Water Resources Control Board, upon finding and making the final determination of a violation of a condition included pursuant to paragraph (1) of subdivision (b), shall notify the Department of Food and Agriculture, which may take appropriate action with respect to the licensee in accordance with Chapter 3 (commencing with Section 26030).

SECTION 26061 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26061.

(a) The state cultivator license types to be issued by the Department of Food and Agriculture under this division shall include all of the following:

(1) Type 1, or “specialty outdoor,” for outdoor cultivation using no artificial lighting of less than or equal to 5,000 square feet of total canopy size on one premises, or up to 50 mature plants on noncontiguous plots.

(2) Type 1A, or “specialty indoor,” for indoor cultivation using exclusively artificial lighting of between 501 and 5,000 square feet of total canopy size on one premises.

(3) Type 1B, or “specialty mixed-light,” for cultivation using a combination of natural and supplemental artificial lighting at a maximum threshold to be determined by the licensing authority, of between 2,501 and 5,000 square feet of total canopy size on one premises.

(4) Type 1C, or “specialty cottage,” for cultivation using a combination of natural and supplemental artificial lighting at a maximum threshold to be determined by the licensing authority, of 2,500 square feet or less of total canopy size for mixed-light cultivation, up to 25 mature plants for outdoor cultivation, or 500 square feet or less of total canopy size for indoor cultivation, on one premises.

(5) Type 2, or “small outdoor,” for outdoor cultivation using no artificial lighting between 5,001 and 10,000 square feet, inclusive, of total canopy size on one premises.

(6) Type 2A, or “small indoor,” for indoor cultivation using exclusively artificial lighting between 5,001 and 10,000 square feet, inclusive, of total canopy size on one premises.

(7) Type 2B, or “small mixed-light,” for cultivation using a combination of natural and supplemental artificial lighting at a maximum threshold to be determined by the licensing authority, between 5,001 and 10,000 square feet, inclusive, of total canopy size on one premises.

(8) Type 3, or “outdoor,” for outdoor cultivation using no artificial lighting from 10,001 square feet to one acre, inclusive, of total canopy size on one premises. The Department of Food and Agriculture shall limit the number of licenses allowed of this type.

(9) Type 3A, or “indoor,” for indoor cultivation using exclusively artificial lighting between 10,001 and 22,000 square feet, inclusive, of total canopy size on one premises. The Department of Food and Agriculture shall limit the number of licenses allowed of this type.

(10) Type 3B, or “mixed-light,” for cultivation using a combination of natural and supplemental artificial lighting at a maximum threshold to be determined by the licensing authority, between 10,001 and 22,000 square feet, inclusive, of total canopy size on one premises. The Department of Food and Agriculture shall limit the number of licenses allowed of this type.

(11) Type 4, or “nursery” for cultivation of cannabis solely as a nursery.

(b) Except as otherwise provided by law:
Comprehensive
Medicinal and Adult-Use Cannabis Regulation and Safety Act
Senate Bill 94, Proposition 64, and Assembly Bill 133

September 18, 2017 – This document may not contain the most recent statute language
Page | 24

Appendix H-24
(b) No later than January 1, 2021, the Department of Food and Agriculture shall establish a process by which licensed cultivators may establish appellations of standards, practices, and varietals applicable to cannabis grown in a certain geographical area in California, not otherwise specified in subdivision (a).

Section 26064 of the Business and Professions Code is repealed.

**SECTION 26065 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:**

26065.
An employee engaged in the cultivation of cannabis under this division shall be subject to Wage Order No. 4-2001 of the Industrial Welfare Commission.

**SECTION 26066 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:**

26066.
Indoor and outdoor cannabis cultivation by persons and entities licensed under this division shall be conducted in accordance with state and local laws related to land conversion, current building and fire standards, grading, electricity usage, water usage, water quality, woodland and riparian habitat protection, agricultural discharges, and similar matters. State agencies, including, but not limited to, the State Board of Forestry and Fire Protection, the Department of Fish and Wildlife, the State Water Resources Control Board, the California regional water quality control boards, and traditional state law enforcement agencies, shall address environmental impacts of cannabis cultivation and shall coordinate when appropriate with cities and counties and their law enforcement agencies in enforcement efforts.

**CHAPTER 6.5. UNIQUE IDENTIFIERS AND TRACK AND TRACE**

Section 26067 of the Business and Professions Code is repealed.

Chapter 6.5 (commencing with Section 26067) is added to Division 10 of the Business and Professions Code, to read: **CHAPTER 6.5. Unique Identifiers and Track and Trace**

26067.
(a) The department, in consultation with the bureau, shall establish a track and trace program for reporting the movement of cannabis and cannabis products throughout the distribution chain that utilizes a unique identifier pursuant to Section 26069, secure packaging, and is capable of providing information that captures, at a minimum, all of the following:

1. The licensee receiving the product.
2. The transaction date.
3. The cultivator from which the product originates, including the associated unique identifier pursuant to Section 26069.

(b) 1. The department, in consultation with the State Board of Equalization, shall create an electronic database containing the electronic shipping manifests to facilitate the administration of the track and trace program, which shall include, but not be limited to, the following information:

   A. The variety and quantity or weight of products shipped.
   B. The estimated times of departure and arrival.
   C. The variety and quantity or weight of products received.
   D. The actual time of departure and arrival.
   E. A categorization of the product.
   F. The license number and the unique identifier pursuant to Section 26069 issued by the licensing authority for all licensees involved in the shipping process, including, but not limited to, cultivators, manufacturers, distributors, and dispensaries.
(2) (A) The database shall be designed to flag irregularities for all licensing authorities in this division to investigate. All licensing authorities pursuant to this division may access the database and share information related to licensees under this chapter, including social security and individual taxpayer identifications notwithstanding Section 30.

(B) The department shall immediately inform the bureau upon the finding of an irregularity or suspicious finding related to a licensee, applicant, or commercial cannabis activity for investigatory purposes.

(3) Licensing authorities and state and local agencies may, at any time, inspect shipments and request documentation for current inventory.

(4) The bureau shall have 24-hour access to the electronic database administered by the department. The State Board of Equalization shall have read access to the electronic database for the purpose of taxation and regulation of cannabis and cannabis products.

(5) The department shall be authorized to enter into memoranda of understandings with licensing authorities for data sharing purposes, as deemed necessary by the department.

(6) Information received and contained in records kept by the department or licensing authorities for the purposes of administering this chapter are confidential and shall not be disclosed pursuant to the California Public Records Act (Chapter 3.5 (commencing with Section 6250) of Division 7 of Title 1 of the Government Code), except as necessary for authorized employees of the State of California or any city, county, or city and county to perform official duties pursuant to this division or a local ordinance.

(7) Upon the request of a state or local law enforcement agency, licensing authorities shall allow access to or provide information contained within the database to assist law enforcement in their duties and responsibilities pursuant to this division.

26068.
(a) The department, in consultation with the bureau and the State Board of Equalization, shall ensure that the track and trace program can also track and trace the amount of the cultivation tax due pursuant to Part 14.5 (commencing with Section 34010) of Division 2 of the Revenue and Taxation Code. The track and trace program shall include an electronic seed to sale software tracking system with data points for the different stages of commercial activity, including, but not limited to, cultivation, harvest, processing, distribution, inventory, and sale.

(b) The department, in consultation with the bureau, shall ensure that licensees under this division are allowed to use third-party applications, programs, and information technology systems to comply with the requirements of the expanded track and trace program described in subdivision (a) to report the movement of cannabis and cannabis products throughout the distribution chain and communicate the information to licensing agencies as required by law.

(c) Any software, database, or other information technology system utilized by the department to implement the expanded track and trace program shall support interoperability with third-party cannabis business software applications and allow all licensee-facing system activities to be performed through a secure application programming interface (API) or comparable technology that is well documented, bi-directional, and accessible to any third-party application that has been validated and has appropriate credentials. The API or comparable technology shall have version control and provide adequate notice of updates to third-party applications. The system should provide a test environment for third-party applications to access that mirrors the production environment.

26069.
(a) The department shall establish a Cannabis Cultivation Program to be administered by the secretary. The secretary shall administer this section as it pertains to the cultivation of cannabis. For purposes of this division, cannabis is an agricultural product.

(b) A person or entity shall not cultivate cannabis without first obtaining a state license issued by the department pursuant to this division.

(c) (1) The department, in consultation with, but not limited to, the bureau, shall implement a unique identification program for cannabis. In implementing the program, the department shall consider issues including, but not limited to, water use and environmental impacts. If the State Water Resources Control Board or the Department of Fish and Wildlife finds, based on substantial evidence, that cannabis cultivation is causing significant adverse impacts on the environment in a
watershed or other geographic area, the department shall not issue new licenses or increase the total number of plant identifiers within that watershed or area.

(2) (A) The department shall establish a program for the identification of permitted cannabis plants at a cultivation site during the cultivation period. A unique identifier shall be issued for each cannabis plant. The department shall ensure that unique identifiers are issued as quickly as possible to ensure the implementation of this division. The unique identifier shall be attached at the base of each plant or as otherwise required by law or regulation.

(B) Unique identifiers shall only be issued to those persons appropriately licensed by this section.

(C) Information associated with the assigned unique identifier and licensee shall be included in the trace and track program specified in Section 26067.

(D) The department may charge a fee to cover the reasonable costs of issuing the unique identifier and monitoring, tracking, and inspecting each cannabis plant.

(E) The department may promulgate regulations to implement this section.

(3) The department shall take adequate steps to establish protections against fraudulent unique identifiers and limit illegal diversion of unique identifiers to unlicensed persons.

(d) A city, county, or city and county may administer unique identifiers and associated identifying information but a city, county, or city and county's identifiers shall not supplant the department's track and trace program.

(e) (1) This section does not apply to the cultivation of cannabis in accordance with Section 11362.1 of the Health and Safety Code or the Compassionate Use Act.

(2) Subdivision (b) does not apply to persons or entities licensed under subdivision (b) of Section 26070.5.

26069.1.
The secretary may enter into a cooperative agreement with a county agricultural commissioner or other state or local agency to assist the department in implementing the provisions of this division related to administration, investigation, inspection, fee collection, document management, education and outreach, distribution of individual licenses approved by the secretary, and technical assistance pertaining to the cultivation of cannabis. The department shall pay compensation under a cooperative agreement from fees collected and deposited pursuant to this division and shall provide reimbursement to a county agricultural commissioner, state, or local agency for associated costs. The secretary shall not delegate through a cooperative agreement, or otherwise, its authority to issue cultivation licenses to a county agricultural commissioner, local agency, or another state agency. The secretary shall provide notice of any cooperative agreement entered into pursuant to this section to other relevant state agencies involved in the regulation of cannabis cultivation. No cooperative agreement under this section shall relieve the department of its obligations under paragraph (2) of subdivision (a) of Section 26012 to administer the provisions of this division related to, and associated with, the cultivation of cannabis.

26069.9.
For purposes of this chapter:

(a) "Department" means the Department of Food and Agriculture.

(b) "Secretary" means the Secretary of Food and Agriculture.

CHAPTER 7. RETAILERS AND DISTRIBUTORS

SECTION 26070 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26070. Retailers and Distributors.

(a) State licenses to be issued by the bureau related to the sale and distribution of cannabis and cannabis products are as follows:

(1) "Retailer," for the retail sale and delivery of cannabis or cannabis products to customers. A retailer shall have a licensed premises which is a physical location from which commercial cannabis activities are conducted. A retailer's premises may be closed to the public. A retailer may conduct sales exclusively by delivery.
(2) “Distributor,” for the distribution of cannabis and cannabis products. A distributor licensee shall be bonded and insured at a minimum level established by the licensing authority.

(3) (A) “Microbusiness,” for the cultivation of cannabis on an area less than 10,000 square feet and to act as a licensed distributor, Level 1 manufacturer, and retailer under this division, provided such licensee can demonstrate compliance with all requirements imposed by this division on licensed cultivators, distributors, Level 1 manufacturers, and retailers to the extent the licensee engages in such activities. Microbusiness licenses that authorize cultivation of cannabis shall include the license conditions described in subdivision (b) of Section 26060.1.

(B) In coordination with each other, the licensing authorities shall establish a process by which an applicant for a microbusiness license can demonstrate compliance with all the requirements under this division for the activities that will be conducted under the license.

(C) The bureau may enter into interagency agreements with licensing authorities to implement and enforce the provisions of this division related to microbusinesses. The costs of activities carried out by the licensing authorities as requested by the bureau pursuant to the interagency agreement shall be calculated into the application and licensing fees collected pursuant to this division, and shall provide for reimbursement to state agencies for associated costs as provided for in the interagency agreement.

(b) The bureau shall establish minimum security and transportation safety requirements for the commercial distribution and delivery of cannabis and cannabis products. Except as provided in subdivision (d) of Section 26110, the transportation of cannabis and cannabis products shall only be conducted by persons holding a distributor license under this division or employees of those persons. Transportation safety standards established by the bureau shall include, but not be limited to, minimum standards governing the types of vehicles in which cannabis and cannabis products may be distributed and delivered and minimum qualifications for persons eligible to operate such vehicles.

(c) The driver of a vehicle transporting or transferring cannabis or cannabis products shall be directly employed by a licensee authorized to transport or transfer cannabis or cannabis products.

(d) Notwithstanding any other law, all vehicles transporting cannabis and cannabis products for hire shall be required to have a valid motor carrier permit pursuant to Chapter 2 (commencing with Section 34620) of Division 14.85 of the Vehicle Code. The Department of the California Highway Patrol shall have authority over the safe operation of these vehicles, including, but not limited to, requiring licensees engaged in the transportation of cannabis or cannabis products to participate in the Basic Inspection of Terminals (BIT) program pursuant to Section 34501.12 of the Vehicle Code.

(e) Prior to transporting cannabis or cannabis products, a licensed distributor shall do both of the following:

1. Complete an electronic shipping manifest as prescribed by the licensing authority. The shipping manifest shall include the unique identifier, pursuant to Section 26069, issued by the Department of Food and Agriculture for the original cannabis product.

2. Securely transmit the manifest to the bureau and the licensee that will receive the cannabis product. The bureau shall inform the Department of Food and Agriculture of information pertaining to commercial cannabis activity for the purpose of the track and trace program identified in Section 26067.

(f) During transportation, the licensed distributor shall maintain a physical copy of the shipping manifest and make it available upon request to agents of the Department of Consumer Affairs and law enforcement officers.

(g) The licensee receiving the shipment shall maintain each electronic shipping manifest and shall make it available upon request to the Department of Consumer Affairs and any law enforcement officers.

(h) Upon receipt of the transported shipment, the licensee receiving the shipment shall submit to the licensing authority a record verifying receipt of the shipment and the details of the shipment.

(i) Transporting, or arranging for or facilitating the transport of, cannabis or cannabis products in violation of this chapter is grounds for disciplinary action against the license.

(j) Licensed retailers and microbusinesses, and licensed nonprofits under Section 26070.5, shall implement security measures reasonably designed to prevent unauthorized entrance into areas containing cannabis or cannabis products and theft of cannabis or cannabis products from the premises. These security measures shall include, but not be limited to, all of the following:
(1) Prohibiting individuals from remaining on the licensee’s premises if they are not engaging in activity expressly related to the operations of the retailer.

(2) Establishing limited access areas accessible only to authorized personnel.

(3) Other than limited amounts of cannabis used for display purposes, samples, or immediate sale, storing all finished cannabis and cannabis products in a secured and locked room, safe, or vault, and in a manner reasonably designed to prevent diversion, theft, and loss.

(k) A retailer shall notify the licensing authority and the appropriate law enforcement authorities within 24 hours after discovering any of the following:

(1) Significant discrepancies identified during inventory. The level of significance shall be determined by the bureau.

(2) Diversion, theft, loss, or any criminal activity pertaining to the operation of the retailer.

(3) Diversion, theft, loss, or any criminal activity by any agent or employee of the retailer pertaining to the operation of the retailer.

(4) The loss or unauthorized alteration of records related to cannabis or cannabis products, registered qualifying patients, primary caregivers, or retailer employees or agents.

(5) Any other breach of security.

(l) Beginning January 1, 2018, a licensee may sell cannabis or cannabis products that have not been tested for a limited and finite time as determined by the bureau. The cannabis or cannabis products must have a label affixed to each package containing the cannabis or cannabis products that clearly states “This product has not been tested as required by the Medicinal and Adult-Use Cannabis Regulation and Safety Act” and must comply with any other requirement as determined by the bureau.

SECTION 26070.1 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26070.1.
Cannabis or cannabis products purchased by a customer shall not leave a licensed retail premises unless they are placed in an opaque package.

SECTION 26070.5 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26070.5.
(a) The bureau shall, by January 1, 2020, investigate the feasibility of creating one or more classifications of nonprofit licenses under this section. The feasibility determination shall be made in consultation with the relevant licensing agencies and representatives of local jurisdictions which issue temporary licenses pursuant to subdivision (b). The bureau shall consider factors including, but not limited to, the following:

(1) Should nonprofit licensees be exempted from any or all state taxes, licensing fees and regulatory provisions applicable to other licenses in this division?

(2) Should funding incentives be created to encourage others licensed under this division to provide professional services at reduced or no cost to nonprofit licensees?

(3) Should nonprofit licenses be limited to, or prioritize those, entities previously operating on a not-for-profit basis primarily providing whole-plant cannabis and cannabis products and a diversity of cannabis strains and seed stock to low-income persons?

(b) Any local jurisdiction may issue temporary local licenses to nonprofit entities primarily providing whole-plant cannabis and cannabis products and a diversity of cannabis strains and seed stock to low-income persons so long as the local jurisdiction does all of the following:

(3) Confirms the license applicant’s status as a nonprofit entity registered with the California Attorney General’s Registry of Charitable Trusts and that the applicant is in good standing with all state requirements governing nonprofit entities.

(4) Licenses and regulates any such entity to protect public health and safety, and so as to require compliance with all environmental requirements in this division.
(5) Provides notice to the bureau of any such local licenses issued, including the name and location of any such licensed entity and all local regulations governing the licensed entity’s operation.
(4) Certifies to the bureau that any such licensed entity will not generate annual gross revenues in excess of two million dollars ($2,000,000).
(c) Temporary local licenses authorized under subdivision (b) shall expire after 12 months unless renewed by the local jurisdiction.
(d) The bureau may impose reasonable additional requirements on the local licenses authorized under subdivision (b).
(e) (1) No new temporary local licenses shall be issued pursuant to this section after the date the bureau determines that creation of nonprofit licenses under this division is not feasible, or if the bureau determines such licenses are feasible, after the date a licensing agency commences issuing state nonprofit licenses.
(2) If the bureau determines such licenses are feasible, no temporary license issued under subdivision (b) shall be renewed or extended after the date on which a licensing agency commences issuing state nonprofit licenses.
(3) If the bureau determines that creation of nonprofit licenses under this division is not feasible, the bureau shall provide notice of this determination to all local jurisdictions that have issued temporary licenses under subdivision (b). The bureau may, in its discretion, permit any such local jurisdiction to renew or extend on an annual basis any temporary license previously issued under subdivision (b).

CHAPTER 8. DISTRIBUTION AND TRANSPORT

SECTION 26080 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26080.
(a) This division shall not be construed to authorize or permit a licensee to transport or distribute, or cause to be transported or distributed, cannabis or cannabis products outside the state, unless authorized by federal law.
(b) A local jurisdiction shall not prevent transportation of cannabis or cannabis products on public roads by a licensee transporting cannabis or cannabis products in compliance with this division.

CHAPTER 9. DELIVERY

SECTION 26090 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26090.
(a) Deliveries, as defined in this division, may only be made by a licensed retailer or microbusiness, or a licensed nonprofit under Section 26070.5.
(b) All employees of a retailer, microbusiness, or nonprofit delivering cannabis or cannabis products shall carry a copy of the licensee’s current license and a government-issued identification with a photo of the employee, such as a driver’s license. The employee shall present that license and identification upon request to state and local law enforcement, employees of regulatory authorities, and other state and local agencies enforcing this division.
(c) During delivery, the licensee shall maintain a copy of the delivery request and shall make it available upon request of the licensing authority and law enforcement officers. The delivery request documentation shall comply with state and federal law regarding the protection of confidential medical information.
(d) A customer requesting delivery shall maintain a physical or electronic copy of the delivery request and shall make it available upon request by the licensing authority and law enforcement officers.
(e) A local jurisdiction shall not prevent delivery of cannabis or cannabis products on public roads by a licensee acting in compliance with this division and local law as adopted under Section 26200.
CHAPTER 10. TESTING LABORATORIES

Section 26100 of the Business and Professions Code is repealed.

SECTION 26101 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED AND RENUMBERED TO READ:

26100.
(a) Except as otherwise provided by law, cannabis or cannabis products shall not be sold pursuant to a license provided for under this division unless a representative sample of the cannabis or cannabis products has been tested by a licensed testing laboratory.
(b) The bureau shall develop criteria to determine which batches shall be tested. All testing of the samples shall be performed on the final form in which the cannabis or cannabis product will be consumed or used.
(c) Testing of batches to meet the requirements of this division shall only be conducted by a licensed testing laboratory.
(d) For each batch tested, the testing laboratory shall issue a certificate of analysis for selected lots at a frequency determined by the bureau with supporting data, to report both of the following:
   (1) Whether the chemical profile of the sample conforms to the labeled content of compounds, including, but not limited to, all of the following, unless limited through regulation by the bureau:
      (A) Tetrahydrocannabinol (THC).
      (B) Tetrahydrocannabinolic Acid (THCA).
      (C) Cannabidiol (CBD).
      (D) Cannabidiolic Acid (CBDA).
      (E) The terpenes required by the bureau in regulation.
      (F) Cannabigerol (CBG).
      (G) Cannabinol (CBN).
      (H) Any other compounds or contaminants required by the bureau.
   (2) That the presence of contaminants does not exceed the levels established by the bureau. In establishing the levels, the bureau shall consider the American Herbal Pharmacopoeia monograph, guidelines set by the Department of Pesticide Regulation pursuant to subdivision (d) of Section 26060, and any other relevant sources. For purposes of this paragraph, "contaminants" includes, but is not limited to, all of the following:
      (A) Residual solvent or processing chemicals.
      (B) Foreign material, including, but not limited to, hair, insects, or similar or related adulterant.
      (C) Microbiological impurities as identified by the bureau in regulation.
(e) Standards for residual levels of volatile organic compounds shall be established by the bureau.
(f) The testing laboratory shall conduct all testing required by this section in a manner consistent with the general requirements for the competence of testing and calibrations activities, including sampling and using verified methods.
(g) All testing laboratories performing tests pursuant to this section shall obtain and maintain ISO/IEC 17025 accreditation as required by the bureau in regulation.
(h) If a test result falls outside the specifications authorized by law or regulation, the testing laboratory shall follow a standard operating procedure to confirm or refute the original result.
(i) A testing laboratory shall destroy the remains of the sample of medical cannabis or medical cannabis product upon completion of the analysis, as determined by the bureau through regulations.
(j) Any presale inspection, testing transfer, or transportation of cannabis products pursuant to this section shall conform to a specified chain of custody protocol and any other requirements imposed under this division.
(k) This division does not prohibit a licensee from performing testing on the licensee's premises for the purposes of quality assurance of the product in conjunction with reasonable business operations.
division also does not prohibit a licensee from performing testing on the licensee’s premises of cannabis or cannabis products obtained from another licensee. Onsite testing by the licensee shall not be certified by the bureau and does not exempt the licensee from the requirements of quality assurance testing at a testing laboratory pursuant this section.

Section 26102 of the Business and Professions Code is repealed.

SECTION 26102 IS ADDED TO THE BUSINESS AND PROFESSIONS CODE, TO READ:

26102.
A testing laboratory shall not be licensed by the bureau unless the laboratory meets all of the following:
(a) Complies with any other requirements specified by the bureau.
(b) Notifies the bureau within one business day after the receipt of notice of any kind that its accreditation has been denied, suspended, or revoked.
(c) Has established standard operating procedures that provide for adequate chain of custody controls for samples transferred to the testing laboratory for testing.

Section 26103 of the Business and Professions Code is repealed.

SECTION 26104 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26104.
(a) A licensed testing laboratory shall, in performing activities concerning cannabis and cannabis products, comply with the requirements and restrictions set forth in applicable law and regulations.
(b) The bureau shall develop procedures to do all of the following:
(1) Ensure that testing of cannabis and cannabis products occurs prior to distribution to retailers, microbusinesses, or nonprofits licensed under Section 26070.5.
(2) Specify how often licensees shall test cannabis and cannabis products, and that the cost of testing cannabis shall be borne by the licensed cultivators and the cost of testing cannabis products shall be borne by the licensed manufacturer, and that the costs of testing cannabis and cannabis products shall be borne by a nonprofit licensed under Section 26070.5.
(3) Require destruction of harvested batches whose testing samples indicate noncompliance with health and safety standards required by the bureau, unless remedial measures can bring the cannabis or cannabis products into compliance with quality assurance standards as specified by law and implemented by the bureau.
(4) Ensure that a testing laboratory employee takes the sample of cannabis or cannabis products from the distributor’s premises for testing required by this division and that the testing laboratory employee transports the sample to the testing laboratory.
(c) Except as provided in this division, a testing laboratory shall not acquire or receive cannabis or cannabis products except from a licensee in accordance with this division, and shall not distribute, sell, or dispense cannabis or cannabis products, from the licensed premises from which the cannabis or cannabis products were acquired or received. All transfer or transportation shall be performed pursuant to a specified chain of custody protocol.
(d) A testing laboratory may receive and test samples of cannabis or cannabis products from a qualified patient or primary caregiver only if the qualified patient or primary caregiver presents the qualified patient’s valid physician’s recommendation for cannabis for medicinal purposes. A testing laboratory shall not certify samples from a qualified patient or primary caregiver for resale or transfer to another party or licensee. All tests performed by a testing laboratory for a qualified patient or primary caregiver shall be recorded with the name of the qualified patient or primary caregiver and the amount of cannabis or cannabis product received.

26105.
Manufacturing Level 2 licensees shall enact sufficient methods or procedures to capture or otherwise limit risk of explosion, combustion, or any other unreasonably dangerous risk to public safety created by...
volatile solvents. The State Department of Public Health shall establish minimum standards concerning such methods and procedures for Level 2 licensees.

SECTION 26106 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26106.
Standards for the production, packaging, and labeling of all cannabis products developed by the State Department of Public Health apply to all licensed manufacturers and microbusinesses, and nonprofits licensed under Section 26070.5, unless otherwise specified by the State Department of Public Health.

Section 26110 of the Business and Professions Code is repealed.

CHAPTER 11. QUALITY ASSURANCE, INSPECTION, AND TESTING
SECTION 26110 IS ADDED TO THE BUSINESS AND PROFESSIONS CODE, TO READ:

26110.
(c) Cannabis batches are subject to quality assurance and testing prior to sale at a retailer, microbusiness, or nonprofit licensed under Section 26070.5, except for immature cannabis plants and seeds, as provided for in this division.

(d) A licensee that holds a valid distributor license may act as the distributor for the licensee’s cannabis and cannabis products.

(e) The distributor shall store, as determined by the bureau, the cannabis batches on the premises of the distributor before testing and continuously until either of the following occurs:

(1) The cannabis batch passes the testing requirements pursuant to this division and is transported to a licensed retailer.

(2) The cannabis batch fails the testing requirements pursuant to this division and is destroyed or transported to a manufacturer for remediation as allowed by the bureau or the Department of Public Health.

(f) The distributor shall arrange for a testing laboratory to obtain a representative sample of each cannabis batch at the distributor’s licensed premises. After obtaining the sample, the testing laboratory representative shall maintain custody of the sample and transport it to the testing laboratory.

(g) Upon issuance of a certificate of analysis by the testing laboratory that the cannabis batch has passed the testing requirements pursuant to this division, the distributor shall conduct a quality assurance review before distribution to ensure the labeling and packaging of the cannabis and cannabis products conform to the requirements of this division.

(f) (1) There shall be a quality assurance compliance monitor who is an employee or contractor of the bureau and who shall not hold a license in any category or own or have an ownership interest in a licensee or the premises of a licensee.

(2) The quality assurance compliance monitor shall conduct random quality assurance reviews at a distributor’s licensed premises before distribution to ensure the labeling and packaging of the cannabis and cannabis products conform to the requirements of this division.

(3) The quality assurance compliance monitor shall have access to all records and test results required of a licensee by law in order to conduct quality assurance analysis and to confirm test results. All records of inspection and verification by the quality assurance compliance monitor shall be provided to the bureau. Failure to comply shall be noted by the quality assurance compliance monitor for further investigation. Violations shall be reported to the bureau. The quality assurance compliance monitor shall also verify the tax payments collected and paid under Sections 34011 and 34012 of the Revenue and Tax Code are accurate. The monitor shall also have access to the inputs and assumptions in the track and trace system and shall be able to verify the accuracy of those and that they are commensurate with the tax payments.

(g) After testing, all cannabis and cannabis products fit for sale may be transported only from the distributor’s premises to the premises of a licensed retailer, microbusiness, or nonprofit.
(h) A licensee is not required to sell cannabis or cannabis products to a distributor and may directly contract for sale with a licensee authorized to sell cannabis and cannabis products to purchasers.

(i) A distributor performing services pursuant to this section may collect a fee from the licensee for the services provided. The fee may include, but is not limited to, the costs incurred for laboratory testing. A distributor may also collect applicable state or local taxes and fees.

(j) This section does not prohibit a licensee from performing testing on the licensee’s premises for the purposes of quality assurance of the product in conjunction with reasonable business operations. The testing conducted on the licensee’s premises by the licensee does not meet the testing requirements pursuant to this division.

CHAPTER 12. PACKAGING AND LABELING

SECTION 26120 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26120.
(a) Prior to delivery or sale at a retailer, cannabis and cannabis products shall be labeled and placed in a resealable, tamper-evident, child-resistant package and shall include a unique identifier for the purposes of identifying and tracking cannabis and cannabis products.

(b) Packages and labels shall not be made to be attractive to children.

(c) All cannabis and cannabis product labels and inserts shall include the following information prominently displayed in a clear and legible fashion in accordance with the requirements, including font size, prescribed by the bureau or the State Department of Public Health:

(1) The following statements, in bold print:

(A) For cannabis: “GOVERNMENT WARNING: THIS PACKAGE CONTAINS CANNABIS, A SCHEDULE I CONTROLLED SUBSTANCE. KEEP OUT OF REACH OF CHILDREN AND ANIMALS. CANNABIS MAY ONLY BE POSSESSED OR CONSUMED BY PERSONS 21 YEARS OF AGE OR OLDER UNLESS THE PERSON IS A QUALIFIED PATIENT. CANNABIS USE WHILE PREGNANT OR BREASTFEEDING MAY BE HARMFUL. CONSUMPTION OF CANNABIS IMPAIRS YOUR ABILITY TO DRIVE AND OPERATE MACHINERY. PLEASE USE EXTREME CAUTION.”

(B) For cannabis products: “GOVERNMENT WARNING: THIS PRODUCT CONTAINS CANNABIS, A SCHEDULE I CONTROLLED SUBSTANCE. KEEP OUT OF REACH OF CHILDREN AND ANIMALS. CANNABIS PRODUCTS MAY ONLY BE POSSESSED OR CONSUMED BY PERSONS 21 YEARS OF AGE OR OLDER UNLESS THE PERSON IS A QUALIFIED PATIENT. THE INTOXICATING EFFECTS OF CANNABIS PRODUCTS MAY BE DELAYED UP TO TWO HOURS. CANNABIS USE WHILE PREGNANT OR BREASTFEEDING MAY BE HARMFUL. CONSUMPTION OF CANNABIS PRODUCTS IMPAIRS YOUR ABILITY TO DRIVE AND OPERATE MACHINERY. PLEASE USE EXTREME CAUTION.”

(2) For packages containing only dried flower, the net weight of cannabis in the package.

(3) Identification of the source and date of cultivation, the type of cannabis or cannabis product and the date of manufacturing and packaging.

(4) The appellation of origin, if any.

(5) List of pharmacologically active ingredients, including, but not limited to, tetrahydrocannabinol (THC), cannabidiol (CBD), and other cannabinoid content, the THC and other cannabinoid amount in milligrams per serving, servings per package, and the THC and other cannabinoid amount in milligrams for the package total.

(6) A warning if nuts or other known allergens are used.

(7) Information associated with the unique identifier issued by the Department of Food and Agriculture.

(8) For a medicinal cannabis product sold at a retailer, the statement “FOR MEDICAL USE ONLY.”

(9) Any other requirement set by the bureau or the State Department of Public Health.

(d) Only generic food names may be used to describe the ingredients in edible cannabis products.
(e) In the event the Attorney General determines that cannabis is no longer a Schedule I controlled substance under federal law, the label prescribed in subdivision (c) shall no longer require a statement that cannabis is a Schedule I controlled substance.

SECTION 26121 IS ADDED TO THE BUSINESS AND PROFESSIONS TO CODE, TO READ:

26121.
(a) A cannabis product is misbranded if it is any of the following:
   (1) Manufactured, packed, or held in this state in a manufacturing premises not duly licensed as provided in this division.
   (2) Its labeling is false or misleading in any particular.
   (3) Its labeling or packaging does not conform to the requirements of Section 26120 or any other labeling or packaging requirement established pursuant to this division.
(b) It is unlawful for any person to manufacture, sell, deliver, hold, or offer for sale a cannabis product that is misbranded.
(c) It is unlawful for any person to misbrand a cannabis product.
(d) It is unlawful for any person to receive in commerce a cannabis product that is misbranded or to deliver or offer for delivery any such cannabis product.

The heading of Chapter 13 (commencing with Section 26130) of Division 10 of the Business and Professions Code is amended to read: CHAPTER 13. Manufacturers and Cannabis Products

CHAPTER 13. MANUFACTURERS AND CANNABIS PRODUCTS

SECTION 26130 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26130.
(a) The State Department of Public Health shall promulgate regulations governing the licensing of cannabis manufacturers and standards for the manufacturing, packaging, and labeling of all manufactured cannabis products. Licenses to be issued are as follows:
   (1) “Manufacturing Level 1,” for sites that manufacture cannabis products using nonvolatile solvents, or no solvents.
   (2) “Manufacturing Level 2,” for sites that manufacture cannabis products using volatile solvents.
(b) For purposes of this section, “volatile solvents” shall have the same meaning as in paragraph (3) of subdivision (b) of Section 11362.3 of the Health and Safety Code, unless otherwise provided by law or regulation.
(c) Edible cannabis products shall be:
   (1) Not designed to be appealing to children or easily confused with commercially sold candy or foods that do not contain cannabis.
   (2) Produced and sold with a standardized concentration of cannabinoids not to exceed 10 milligrams tetrahydrocannabinol (THC) per serving.
   (3) Delineated or scored into standardized serving sizes if the cannabis product contains more than one serving and is an edible cannabis product in solid form.
   (4) Homogenized to ensure uniform disbursement of cannabinoids throughout the product.
   (5) Manufactured and sold under sanitation standards established by the State Department of Public Health, in consultation with the bureau, that are similar to the standards for preparation, storage, handling, and sale of food products.
   (6) Provided to customers with sufficient information to enable the informed consumption of the product, including the potential effects of the cannabis product and directions as to how to consume the cannabis product, as necessary.
   (7) Marked with a universal symbol, as determined by the State Department of Public Health through regulation.
d) Cannabis, including concentrated cannabis, included in a cannabis product manufactured in compliance with law is not considered an adulterant under state law.

SECTION 26131 IS ADDED TO THE BUSINESS AND PROFESSIONS CODE, TO READ:

26131. A cannabis product is adulterated if it is any of the following:

(a) It has been produced, prepared, packed, or held under unsanitary conditions in which it may have become contaminated with filth or in which it may have been rendered injurious.

(b) It consists in whole or in part of any filthy, putrid, or decomposed substance.

(c) It bears or contains any poisonous or deleterious substance that may render it injurious to users under the conditions of use suggested in the labeling or under conditions as are customary or usual.

(d) It bears or contains a substance that is restricted or limited under this division or regulations promulgated pursuant to this division and the level of substance in the product exceeds the limits specified pursuant to this division or in regulation.

(e) Its concentrations differ from, or its purity or quality is below, that which it is represented to possess.

(f) The methods, facilities, or controls used for its manufacture, packing, or holding do not conform to, or are not operated or administered in conformity with, practices established by regulations adopted under this division to ensure that the cannabis product meets the requirements of this division as to safety and has the concentrations it purports to have and meets the quality and purity characteristics that it purports or is represented to possess.

(g) Its container is composed, in whole or in part, of any poisonous or deleterious substance that may render the contents injurious to health.

(h) It is an edible cannabis product and a substance has been mixed or packed with it after testing by a testing laboratory so as to reduce its quality or concentration or if any substance has been substituted, wholly or in part, for the edible cannabis product.

(b) It is unlawful for a person to manufacture, sell, deliver, hold, or offer for sale a cannabis product that is adulterated.

(c) It is unlawful for a person to adulterate a cannabis product.

(d) It is unlawful for a person to receive in commerce a cannabis product that is adulterated or to deliver or proffer for delivery any such cannabis product.

SECTION 26132 IS ADDED TO THE BUSINESS AND PROFESSIONS CODE, TO READ:

26132. When the State Department of Public Health has evidence that a cannabis product is adulterated or misbranded, the department shall notify the manufacturer.

(b) The State Department of Public Health may order a manufacturer to immediately cease distribution of a cannabis product and recall the product if the department determines both of the following:

(1) The manufacture, distribution, or sale of the cannabis product creates or poses an immediate and serious threat to human life or health.

(2) Other procedures available to the State Department of Public Health to remedy or prevent the occurrence of the situation would result in an unreasonable delay.

(c) The State Department of Public Health shall provide the manufacturer an opportunity for an informal proceeding on the matter, as determined by the department, within five days, on the actions required by the order and on why the product should not be recalled. Following the proceeding, the order shall be affirmed, modified, or set aside as determined appropriate by the State Department of Public Health.

(d) The State Department of Public Health’s powers set forth in this section expressly include the power to order movement, segregation, isolation, or destruction of cannabis products, as well as the power to hold those products in place.
(e) If the State Department of Public Health determines it is necessary, it may issue the mandatory recall order and may use all appropriate measures to obtain reimbursement from the manufacturer for any and all costs associated with these orders. All funds obtained by the State Department of Public Health from these efforts shall be deposited into a fee account specific to the State Department of Public Health, to be established in the Cannabis Control Fund, and will be available for use by the department upon appropriation by the Legislature.

(f) It is unlawful for any person to move or allow to be moved a cannabis product subject to an order issued pursuant to this section unless that person has first obtained written authorization from the State Department of Public Health.

SECTION 26133 IS ADDED TO THE BUSINESS AND PROFESSIONS CODE, TO READ:

26133. (a) If the State Department of Public Health finds or has probable cause to believe that a cannabis product is adulterated or misbranded within the meaning of this division or the sale of the cannabis product would be in violation of this division, the department shall affix to the cannabis product, or component thereof, a tag or other appropriate marking. The State Department of Public Health shall give notice that the cannabis product is, or is suspected of being, adulterated or misbranded, or the sale of the cannabis would be in violation of this division and has been embargoed and that no person shall remove or dispose of the cannabis product by sale or otherwise until permission for removal or disposal is given by the State Department of Public Health or a court.

(b) It is unlawful for a person to remove, sell, or dispose of a detained or embargoed cannabis product without written permission of the State Department of Public Health or a court. A violation of this subdivision is punishable by a fine of not more than ten thousand dollars ($10,000).

(c) If the adulteration or misbranding can be corrected by proper labeling or additional processing of the cannabis product and all of the provisions of this division can be complied with, the licensee or owner may request the State Department of Public Health to remove the tag or other marking. If, under the supervision of the State Department of Public Health, the adulteration or misbranding has been corrected, the department may remove the tag or other marking.

(d) If the State Department of Public Health finds that a cannabis product that is embargoed is not adulterated or misbranded, or that its sale is not otherwise in violation of this division, the State Department of Public Health may remove the tag or other marking.

(e) The cannabis product may be destroyed by the owner pursuant to a corrective action plan approved by the State Department of Public Health and under the supervision of the department. The cannabis product shall be destroyed at the expense of the licensee or owner.

(f) A proceeding for condemnation of a cannabis product under this section shall be subject to appropriate notice to, and the opportunity for a hearing with regard to, the person affected in accordance with Section 26016.

(g) Upon a finding by the administrative law judge that the cannabis product is adulterated or misbranded, or that its sale is otherwise in violation of this division, the administrative law judge may direct the cannabis product to be destroyed at the expense of the licensee or owner. The administrative law judge may also direct a licensee or owner of the affected cannabis product to pay fees and reasonable costs, including the costs of storage and testing, incurred by the bureau or the State Department of Public Health in investigating and prosecuting the action taken pursuant to this section.

(h) When, under the supervision of the State Department of Public Health, the adulteration or misbranding has been corrected by proper labeling or additional processing of the cannabis and cannabis product and when all provisions of this division have been complied with, and after costs, fees, and expenses have been paid, the State Department of Public Health may release the embargo and remove the tag or other marking.

(i) The State Department of Public Health may condemn a cannabis product under provisions of this division. The cannabis product shall be destroyed at the expense of the licensee or owner.
SECTION 26134 IS ADDED TO THE BUSINESS AND PROFESSIONS CODE, TO READ:

26134.
(a) The State Department of Public Health may issue a citation, which may contain an order of abatement and an order to pay an administrative fine assessed by the department if the licensee is in violation of this division or any regulation adopted pursuant to it.
(1) Citations shall be in writing and shall describe with particularity the nature of the violation, including specific reference to the law determined to have been violated.
(2) If appropriate, the citation shall contain an order of abatement fixing a reasonable time for abatement of the violation.
(3) The administrative fine assessed by the State Department of Public Health shall not exceed five thousand dollars ($5,000) for each violation, unless a different fine amount is expressly provided by this division. In assessing a fine, the department shall give due consideration to the appropriateness of the amount of the fine with respect to factors such as the gravity of the violation, the good faith of the licensee, and the history of previous violations.
(4) A citation issued or a fine assessed pursuant to this section shall notify the licensee that if the licensee desires a hearing to contest the finding of a violation, that hearing shall be requested by written notice to the State Department of Public Health within 30 days of the date of issuance of the citation or fine. If a hearing is not requested pursuant to this section, payment of any fine shall not constitute an admission of the violation charged. Hearings shall be held pursuant to Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code.
(5) Failure of a licensee to pay a fine within 30 days of the date of assessment of the fine, unless assessment of the fine or the citation is being appealed, may result in further legal action being taken by the State Department of Public Health. If a licensee does not contest a citation or pay the fine, the full amount of the fine shall be added to the fee for renewal of the license. A license shall not be renewed without payment of the renewal fee, including the amount of the fine.
(6) A citation may be issued without the assessment of an administrative fine.
(7) The State Department of Public Health may limit the assessment of administrative fines to only particular violations of this division and establish any other requirement for implementation of the citation system by regulation.

(b) Notwithstanding any other law, if a fine is paid to satisfy an assessment based on the finding of a violation, payment of the fine shall be represented as satisfactory resolution of the matter for purposes of public disclosure.

SECTION 26135 IS ADDED TO THE BUSINESS AND PROFESSIONS CODE, TO READ:

26135.
A peace officer, including a peace officer within the State Department of Public Health or the bureau, may seize cannabis and cannabis products in any of the following circumstances:
(a) The cannabis or cannabis product is subject to recall or embargo by any licensing authority.
(b) The cannabis or cannabis product is subject to destruction pursuant to this division.
(c) The cannabis or cannabis product is seized related to an investigation or disciplinary action for violation of this division.

CHAPTER 14. PROTECTION OF MINORS
SECTION 26140 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26140.
(a) An A-licensee shall not:
   (1) Sell cannabis or cannabis products to persons under 21 years of age.
Comprehensive
Medicinal and Adult-Use Cannabis Regulation and Safety Act
Senate Bill 94, Proposition 64, and Assembly Bill 133

September 18, 2017 – This document may not contain the most recent statute language
Page | 39
(e) “Market” or “Marketing” means any act or process of promoting or selling cannabis or cannabis products, including, but not limited to, sponsorship of sporting events, point-of-sale advertising, and development of products specifically designed to appeal to certain demographics.

SECTION 26151 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26151. (a) (1) All advertisements and marketing shall accurately and legibly identify the licensee responsible for its content, by adding, at a minimum, the licensee’s license number.
(2) A technology platform shall not display an advertisement by a licensee on an Internet Web page unless the advertisement displays the license number of the licensee.
(1) An outdoor advertising company subject to the Outdoor Advertising Act (Chapter 2 (commencing with Section 5200) of Division 3) shall not display an advertisement by a licensee unless the advertisement displays the license number of the licensee.
(b) Any advertising or marketing placed in broadcast, cable, radio, print, and digital communications shall only be displayed where at least 71.6 percent of the audience is reasonably expected to be 21 years of age or older, as determined by reliable, up-to-date audience composition data.
(c) Any advertising or marketing involving direct, individualized communication or dialogue controlled by the licensee shall utilize a method of age affirmation to verify that the recipient is 21 years of age or older before engaging in that communication or dialogue controlled by the licensee. For purposes of this section, that method of age affirmation may include user confirmation, birth date disclosure, or other similar registration method.
(d) All advertising shall be truthful and appropriately substantiated.

SECTION 26152 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26152. A licensee shall not do any of the following:
(a) Advertise or market in a manner that is false or untrue in any material particular, or that, irrespective of falsity, directly, or by ambiguity, omission, or inference, or by the addition of irrelevant, scientific, or technical matter, tends to create a misleading impression.
(b) Publish or disseminate advertising or marketing containing any statement concerning a brand or product that is inconsistent with any statement on the labeling thereof.
(c) Publish or disseminate advertising or marketing containing any statement, design, device, or representation which tends to create the impression that the cannabis originated in a particular place or region, unless the label of the advertised product bears an appellation of origin, and such appellation of origin appears in the advertisement.
(d) Advertise or market on a billboard or similar advertising device located on an Interstate Highway or on a State Highway which crosses the California border.
(e) Advertise or market cannabis or cannabis products in a manner intended to encourage persons under 21 years of age to consume cannabis or cannabis products.
(f) Publish or disseminate advertising or marketing that is attractive to children.
(g) Advertise or market cannabis or cannabis products on an advertising sign within 1,000 feet of a day care center, school providing instruction in kindergarten or any grades 1 through 12, playground, or youth center.

SECTION 26153 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26153. A licensee shall not give away any amount of cannabis or cannabis products, or any cannabis accessories, as part of a business promotion or other commercial activity.

SECTION 26154 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

September 18, 2017 – This document may not contain the most recent statute language
26154. A licensee shall not include on the label of any cannabis or cannabis product or publish or disseminate advertising or marketing containing any health-related statement that is untrue in any particular manner or tends to create a misleading impression as to the effects on health of cannabis consumption.

SECTION 26155 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26155. (a) The provisions of subdivision (g) of Section 26152 shall not apply to the placement of advertising signs inside a licensed premises and which are not visible by normal unaided vision from a public place, provided that such advertising signs do not advertise cannabis or cannabis products in a manner intended to encourage persons under 21 years of age to consume cannabis or cannabis products.
(b) This chapter does not apply to any noncommercial speech.

SECTION 26156 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26156. The requirements of Section 5272 apply to this division.

CHAPTER 16. RECORDS
SECTION 26160 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26160. (a) A licensee shall keep accurate records of commercial cannabis activity.
(b) All records related to commercial cannabis activity as defined by the licensing authorities shall be maintained for a minimum of seven years.
(c) Licensing authorities may examine the records of a licensee and inspect the premises of a licensee as the licensing authority, or a state or local agency, deems necessary to perform its duties under this division. All inspections and examinations of records shall be conducted during standard business hours of the licensed facility or at any other reasonable time. Licensees shall provide and deliver records to the licensing authority upon request.
(d) Licensees shall keep records identified by the licensing authorities on the premises of the location licensed. The licensing authorities may make any examination of the records of any licensee. Licensees shall also provide and deliver copies of documents to the licensing authority upon request.
(e) A licensee, or its agent or employee, that refuses, impedes, obstructs, or interferes with an inspection of the premises or records of the licensee pursuant to this section, has engaged in a violation of this division.
(f) If a licensee, or an agent or employee of a licensee, fails to maintain or provide the records required pursuant to this section, the licensee shall be subject to a citation and fine of up to thirty thousand dollars ($30,000) per individual violation.

SECTION 26161 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26161. (a) Every sale or transport of cannabis or cannabis products from one licensee to another licensee must be recorded on a sales invoice or receipt. Sales invoices and receipts may be maintained electronically and must be filed in such manner as to be readily accessible for examination by employees of the licensing authorities or State Board of Equalization and shall not be commingled with invoices covering other commodities.
(b) Each sales invoice required by subdivision (a) shall include the name and address of the seller and shall include the following information:
   (1) Name and address of the purchaser.
   (2) Date of sale and invoice number.
   (3) Kind, quantity, size, and capacity of packages of cannabis or cannabis products sold.
   (4) The cost to the purchaser, together with any discount applied to the price as shown on the invoice.
   (5) The place from which transport of the cannabis or cannabis product was made unless transport was made from the premises of the licensee.
   (6) Any other information specified by the licensing authority.

SECTION 26162 IS ADDED TO THE BUSINESS AND PROFESSIONS CODE, TO READ:

26162.
(a) Information identifying the names of patients, their medical conditions, or the names of their primary caregivers received and contained in records kept by the office or licensing authorities for the purposes of administering this chapter are confidential and shall not be disclosed pursuant to the California Public Records Act (Chapter 3.5 (commencing with Section 6250) of Division 7 of Title 1 of the Government Code), except as necessary for authorized employees of the State of California or any city, county, or city and county to perform official duties pursuant to this chapter, or a local ordinance.

(b) Information identifying the names of patients, their medical conditions, or the names of their primary caregivers received and contained in records kept by the bureau for the purposes of administering this chapter shall be maintained in accordance with Chapter 1 (commencing with Section 123100) of Part 1 of Division 106 of the Health and Safety Code, Part 2.6 (commencing with Section 56) of Division 1 of the Civil Code, and other state and federal laws relating to confidential patient information.

(c) Nothing in this section precludes the following:
   (1) Employees of the bureau or any licensing authorities notifying state or local agencies about information submitted to the agency that the employee suspects is falsified or fraudulent.
   (2) Notifications from the bureau or any licensing authorities to state or local agencies about apparent violations of this chapter or applicable local ordinance.
   (3) Verification of requests by state or local agencies to confirm licenses and certificates issued by the regulatory authorities or other state agency.
   (4) Provision of information requested pursuant to a court order or subpoena issued by a court or an administrative agency or local governing body authorized by law to issue subpoenas.

(d) Information shall not be disclosed by any state or local agency beyond what is necessary to achieve the goals of a specific investigation, notification, or the parameters of a specific court order or subpoena.

SECTION 26162.5 IS ADDED TO THE BUSINESS AND PROFESSIONS CODE, TO READ:

26162.5.
Information contained in a physician’s recommendation issued in accordance with Article 25 (commencing with Section 2525) of Chapter 5 of Division 2 and received by a licensee, including, but not limited to, the name, address, or social security number of the patient, the patient’s medical condition, or the name of the patient’s primary caregiver is hereby deemed “medical information” within the meaning of the Confidentiality of Medical Information Act (Part 2.6 (commencing with Section 56) of Division 1 of the Civil Code) and shall not be disclosed by a licensee except as necessary for authorized employees of the State of California or any city, county, or city and county to perform official duties pursuant to this chapter, or a local ordinance.

Chapter 17 (commencing with Section 26170) of Division 10 of the Business and Professions Code is repealed.
CHAPTER 18. LICENSE FEES

SECTION 26180 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26180.
Each licensing authority shall establish a scale of application, licensing, and renewal fees, based upon the cost of enforcing this division, as follows:
(a) Each licensing authority shall charge each licensee a licensure and renewal fee, as applicable. The licensure and renewal fee shall be calculated to cover the costs of administering this division. The licensure fee may vary depending upon the varying costs associated with administering the various regulatory requirements of this division as they relate to the nature and scope of the different licensure activities, including, but not limited to, the track and trace program required pursuant to Section 26067, but shall not exceed the reasonable regulatory costs to the licensing authority.
(b) The total fees assessed pursuant to this division shall be set at an amount that will fairly and proportionately generate sufficient total revenue to fully cover the total costs of administering this division.
(c) All license fees shall be set on a scaled basis by the licensing authority, dependent on the size of the business.
(d) The licensing authority shall deposit all fees collected in a fee account specific to that licensing authority, to be established in the Cannabis Control Fund. Moneys in the licensing authority fee accounts shall be used, upon appropriation by the Legislature, by the designated licensing authority for the administration of this division.

SECTION 26180.5 IS ADDED TO THE BUSINESS AND PROFESSIONS CODE, TO READ:

26180.5.
No later than January 1, 2018, the Secretary of Business, Consumer Services, and Housing or his or her designee shall initiate work with the Legislature, the Department of Consumer Affairs, the Department of Food and Agriculture, the State Department of Public Health, and any other related departments to ensure that there is a safe and viable way to collect cash payments for taxes and fees related to the regulation of cannabis activity throughout the state.

SECTION 26181 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26181.
The State Water Resources Control Board, the Department of Fish and Wildlife, and other agencies may establish fees to cover the costs of their cannabis programs.

CHAPTER 19. ANNUAL REPORTS; PERFORMANCE AUDITS

SECTION 26190 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26190.
Beginning on March 1, 2023, and on or before March 1 of each year thereafter, each licensing authority shall prepare and submit to the Legislature an annual report on the authority’s activities, in compliance with Section 9795 of the Government Code, and post the report on the authority’s Internet Web site. The report shall include, but not be limited to, the following information for the previous fiscal year:
(a) The amount of funds allocated and spent by the licensing authority for cannabis licensing, enforcement, and administration.
(b) The number of state licenses issued, renewed, denied, suspended, and revoked, by state license category.
(c) The average time for processing state license applications, by state license category.
(d) The number of appeals from the denial of state licenses or other disciplinary actions taken by the licensing authority and the average time spent on these appeals.
Comprehensive
Medicinal and Adult-Use Cannabis Regulation and Safety Act
Senate Bill 94, Proposition 64, and Assembly Bill 133

September 18, 2017 – This document may not contain the most recent statute language
Page | 44

(e) The number of complaints submitted by citizens or representatives of cities or counties regarding licensees, provided as both a comprehensive statewide number and by geographical region.

(f) The number and type of enforcement activities conducted by the licensing authorities and by local law enforcement agencies in conjunction with the licensing authorities.

(g) The number, type, and amount of penalties, fines, and other disciplinary actions taken by the licensing authorities.

(h) A detailed list of the petitions for regulatory relief or rulemaking changes received by the licensing authorities from licensees requesting modifications of the enforcement of rules under this division.

(i) (1) For the first publication of the reports, the licensing authorities shall provide a joint report to the Legislature regarding the state of the cannabis market in California. This report shall identify any statutory or regulatory changes necessary to ensure that the implementation of this division does not do any of the following:

(A) Allow unreasonable restraints on competition by creation or maintenance of unlawful monopoly power.

(B) Perpetuate the presence of an illegal market for cannabis or cannabis products in the state or out of the state.

(C) Encourage underage use or adult abuse of cannabis or cannabis products, or illegal diversion of cannabis or cannabis products out of the state.

(D) Result in an excessive concentration of licensees in a given city, county, or both.

(E) Present an unreasonable risk of minors being exposed to cannabis or cannabis products.

(F) Result in violations of any environmental protection laws.

(2) For purposes of this subdivision, “excessive concentration” means when the premises for a retail license, microbusiness license, or a license issued under Section 26070.5 is located in an area where either of the following conditions exist:

(A) The ratio of licensees to population in a census tract or census division exceeds the ratio of licensees to population in the county in which the census tract or census division is located, unless reduction of that ratio would unduly limit the development of the legal market so as to perpetuate the illegal market for cannabis or cannabis products.

(B) The ratio of retail licenses, microbusiness licenses, or licenses under Section 26070.5 to population in the census tract, division, or jurisdiction exceeds that allowable by local ordinance adopted under Section 26200.

SECTION 26190.5 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26190.5.
The bureau shall contract with the California Cannabis Research Program, known as the Center for Medicinal Cannabis Research, and formerly known as the California Marijuana Research Program, authorized pursuant to Section 11362.9 of the Health and Safety Code, to develop a study that identifies the impact that cannabis has on motor skills.

SECTION 26191 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26191.
(a) Commencing January 1, 2019, and by January 1 triennially thereafter, the Office of State Audits and Evaluations within the Department of Finance shall conduct a performance audit of the bureau’s activities under this division, and shall report its findings to the bureau and the Legislature by July 1 of that same year. The report shall include, but not be limited to, the following:

(1) The actual costs of the program.

(2) The overall effectiveness of enforcement programs.

(3) Any report submitted pursuant to this section shall be submitted in compliance with Section 9795 of the Government Code.

(b) The Legislature shall provide sufficient funds to the Department of Finance to conduct the triennial audit required by this section.
CHAPTER 20. LOCAL CONTROL

SECTION 26200 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26200.
(a) (1) This division shall not be interpreted to supersede or limit the authority of a local jurisdiction to adopt and enforce local ordinances to regulate businesses licensed under this division, including, but not limited to, local zoning and land use requirements, business license requirements, and requirements related to reducing exposure to secondhand smoke, or to completely prohibit the establishment or operation of one or more types of businesses licensed under this division within the local jurisdiction.

(2) This division shall not be interpreted to supersede or limit existing local authority for law enforcement activity, enforcement of local zoning requirements or local ordinances, or enforcement of local license, permit, or other authorization requirements.

(b) This division shall not be interpreted to require a licensing authority to undertake local law enforcement responsibilities, enforce local zoning requirements, or enforce local licensing, permitting, or other authorization requirements.

(c) A local jurisdiction shall notify the bureau upon revocation of any local license, permit, or authorization for a licensee to engage in commercial cannabis activity within the local jurisdiction. Within 10 days of notification, the bureau shall inform the relevant licensing authorities. Within 60 days of being so informed by the bureau, the relevant licensing authorities shall begin the process to determine whether a license issued to the licensee should be suspended or revoked pursuant to Chapter 3 (commencing with Section 26030).

(d) For facilities issued a state license that are located within the incorporated area of a city, the city shall have full power and authority to enforce this division and the regulations promulgated by the bureau or any licensing authority, if delegated by the state. Notwithstanding Sections 101375, 101400, and 101405 of the Health and Safety Code or any contract entered into pursuant thereto, or any other law, the city shall assume complete responsibility for any regulatory function pursuant to this division within the city limits that would otherwise be performed by the county or any county officer or employee, including a county health officer, without liability, cost, or expense to the county.

(e) This division does not prohibit the issuance of a state temporary event license to a licensee authorizing onsite cannabis sales to, and consumption by, persons 21 years of age or older at a county fair or district agricultural association event, provided that the activities, at a minimum, comply with the requirements of paragraphs (1) to (3), inclusive, of subdivision (g), that all participants are licensed under this division, and that the activities are otherwise consistent with regulations promulgated and adopted by the bureau governing state temporary event licenses. These temporary event licenses shall only be issued in local jurisdictions that authorize such events.

(f) This division, or any regulations promulgated thereunder, shall not be deemed to limit the authority or remedies of a city, county, or city and county under any provision of law, including, but not limited to, Section 7 of Article XI of the California Constitution.

(g) Notwithstanding paragraph (1) of subdivision (a) of Section 11362.3 of the Health and Safety Code, a local jurisdiction may allow for the smoking, vaporizing, and ingesting of cannabis or cannabis products on the premises of a retailer or microbusiness licensed under this division if all of the following are met:

(1) Access to the area where cannabis consumption is allowed is restricted to persons 21 years of age and older.

(2) Cannabis consumption is not visible from any public place or nonage-restricted area.

(3) Sale or consumption of alcohol or tobacco is not allowed on the premises.

26201.
Any standards, requirements, and regulations regarding health and safety, environmental protection, testing, security, food safety, and worker protections established by the state shall be the minimum standards for all licensees under this division statewide. A local jurisdiction may establish additional standards, requirements, and regulations.
SECTION 26202 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26202.
(a) A local jurisdiction may enforce this division and the regulations promulgated by any licensing authority if delegated the power to do so by the licensing authority.
(b) A licensing authority shall implement the delegation of enforcement authority in subdivision (a) through an agreement between the licensing authority and the local jurisdiction to which enforcement authority is to be delegated.

CHAPTER 21. FUNDING
SECTION 26190 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26210.
(a) The Marijuana Control Fund, formerly known as the Medical Cannabis Regulation and Safety Act Fund and the Medical Marijuana Regulation and Safety Act Fund, is hereby renamed the Cannabis Control Fund. Notwithstanding Section 16305.7 of the Government Code, the fund shall include any interest and dividends earned on moneys in the fund.
(b) Upon the effective date of this section, whenever “Marijuana Control Fund,” “Medical Cannabis Regulation and Safety Act Fund,” or “Medical Marijuana Regulation and Safety Act Fund” appears in any statute, regulation, or contract, or in any other code, it shall be construed to refer to the Cannabis Control Fund.
(c) Any General Fund or special fund loan that was used to establish and support the regulatory activities of the state licensing entities pursuant to former Section 19351 shall be repaid by the initial proceeds from fees collected pursuant to this division or any rule or regulation adopted pursuant to this division, by January 1, 2022. Should the initial proceeds from fees not be sufficient to repay the loan, moneys from the Cannabis Fines and Penalties Account shall be made available to the bureau, by appropriation of the Legislature, to repay the loan.
(d) The Medical Cannabis Fines and Penalties Account established in former Section 19351 is hereby renamed the Cannabis Fines and Penalties Account.

SECTION 26210.5 IS ADDED TO THE BUSINESS AND PROFESSIONS CODE, TO READ:

26210.5.
By July 1, 2018, the bureau, in coordination with the Department of General Services, shall establish an office to collect fees and taxes in the County of Humboldt, County of Trinity, or County of Mendocino in order to ensure the safe payment and collection of cash in those counties.

SECTION 26211 OF THE BUSINESS AND PROFESSIONS CODE IS AMENDED TO READ:

26211.
(a) Funds for the initial establishment and support of the regulatory activities under this division, including the public information program described in subdivision (c), and for the activities of the State Board of Equalization under Part 14.5 (commencing with Section 34010) of Division 2 of the Revenue and Taxation Code until July 1, 2017, or until the 2017 Budget Act is enacted, whichever occurs later, shall be advanced from the General Fund and shall be repaid by the initial proceeds from fees collected pursuant to this division, any rule or regulation adopted pursuant to this division, or revenues collected from the tax imposed by Sections 34011 and 34012 of the Revenue and Taxation Code, by January 1, 2025.
(1) Funds advanced pursuant to this subdivision shall be appropriated to the bureau, which shall distribute the moneys to the appropriate licensing authorities, as necessary to implement the provisions of this division, and to the State Board of Equalization, as necessary, to implement...
the provisions of Part 14.5 (commencing with Section 34010) of Division 2 of the Revenue and Taxation Code.

(2) Within 45 days of November 9, 2016, the date this section became operative:
(A) The Director of Finance shall determine an amount of the initial advance from the General Fund to the Cannabis Control Fund that does not exceed thirty million dollars ($30,000,000); and
(B) There shall be advanced a sum of five million dollars ($5,000,000) from the General Fund to the State Department of Health Care Services to provide for the public information program described in subdivision (c).

(b) Notwithstanding subdivision (a), the Legislature shall provide sufficient funds to the Cannabis Control Fund to support the activities of the bureau, state licensing authorities under this division, and the State Board of Equalization to support its activities under Part 14.5 (commencing with Section 34010) of Division 2 of the Revenue and Taxation Code. It is anticipated that this funding will be provided annually beginning on July 1, 2017.

(c) The State Department of Health Care Services shall establish and implement a public information program no later than September 1, 2017. This public information program shall, at a minimum, describe the provisions of the Control, Regulate and Tax Adult Use of Marijuana Act of 2016, the scientific basis for restricting access of cannabis and cannabis products to persons under the age of 21 years, describe the penalties for providing access to cannabis and cannabis products to persons under the age of 21 years, provide information regarding the dangers of driving a motor vehicle, boat, vessel, aircraft, or other vehicle used for transportation while impaired from cannabis use, the potential harms of using cannabis while pregnant or breastfeeding, and the potential harms of overusing cannabis or cannabis products.

Chapter 22 (commencing with Section 26220) is added to Division 10 of the Business and Professions Code, to read: CHAPTER 22. CANNABIS COOPERATIVE ASSOCIATIONS

CHAPTER 22. CANNABIS COOPERATIVE ASSOCIATIONS

ARTICLE 1. DEFINITIONS

26220. Unless the context otherwise requires, the definitions in this article govern the construction of this chapter.

26220.1. “Association” means any cannabis cooperative that is organized pursuant to this chapter. An association shall be deemed incorporated pursuant to this chapter, or organized pursuant to this chapter and shall be deemed a cultivator of a cannabis product within the meaning of this chapter, if it is functioning under, or is subject to, the provisions of this chapter, irrespective of whether it was originally incorporated pursuant to those provisions or was incorporated under other provisions.

26220.2. “Member” includes members of associations without capital stock and holders of common stock in associations that are organized with shares of stock.

26220.3. “Cannabis product” includes any cannabis associated with a licensed cultivator.

ARTICLE 2. GENERAL PROVISIONS

26222. The purpose of this chapter is to do all of the following:
(a) Promote, foster, and encourage the intelligent and orderly marketing of cannabis product through cooperation.
Appendix H

Comprehensive
Medicinal and Adult-Use Cannabis Regulation and Safety Act
Senate Bill 94, Proposition 64, and Assembly Bill 133

(b) Eliminate speculation and waste.
(c) Make the distribution of cannabis product as direct as can be efficiently done.
(d) Stabilize the marketing of cannabis product.
(e) Satisfy the conditions of Section 26052.

26222.1. An exemption under law that applies to a cannabis product in the possession, or under the control, of the individual cultivator, shall apply similarly and completely to the cannabis product that is delivered by its cultivator members that are in the possession, or under the control, of the association.

26222.2. A person, firm, corporation, or association, that is hereafter organized or doing business in this state, may not use the word “cannabis cooperative” as part of its corporate name or other business name or title for producers’ cooperative marketing activities, unless it has complied with this chapter.

26222.3. An association that is organized pursuant to this chapter shall not conspire in restraint of trade, or serve as an illegal monopoly, attempt to lessen competition, or to fix prices in violation of law of this state.

26222.4. The marketing contracts and agreements between an association that is organized pursuant to this chapter and its members and any agreements authorized in this chapter shall not result in restraint of trade, or violation of law of this state.

26222.5. The General Corporation Law (Division 1 (commencing with Section 100) of Title 1 of the Corporations Code) applies to each association that is organized pursuant to this chapter, except where those provisions are in conflict with or inconsistent with the express provisions of this chapter. For the purpose of associations organized without shares of stock, the members shall be deemed to be “shareholders” as the term is used in the General Corporation Law.

26222.6. (a) Except as provided in subdivision (c), Chapter 7 (commencing with Section 1500) of Title 10 of Part 3 of the Code of Civil Procedure does not apply to a proprietary interest in an association organized in accordance with this chapter. A proprietary interest that would otherwise escheat to the state pursuant to Chapter 7 (commencing with Section 1500) of Title 10 of Part 3 of the Code of Civil Procedure shall instead become the property of the association.

(b) Notwithstanding subdivision (a), no proprietary interest shall become the property of the association under this section unless all of the following requirements are satisfied:
(1) At least 60 days’ prior notice of the proposed transfer of the proprietary interest to the association is given to the affected member by first-class or certified mail to the last address of the member shown on the association’s records, and by publication in a newspaper of general circulation in the county in which the member last resided as shown on the association’s records. Notice given pursuant to this paragraph constitutes actual notice.
(2) No written notice objecting to the transfer is received by the association from the affected member or, if the member is deceased, from the member’s heirs or the executor or executrix of the estate, prior to the date of the proposed transfer.

(c) “Proprietary interest” means and includes any membership, membership certificate, membership share, share certificate, or equity or dividend certificate of any class representing a proprietary interest in, and issued by, the association together with all accrued and unpaid earnings, dividends, and patronage distributions relating thereto.
ARTICLE 3. PURPOSES

26223.
(a) Three or more natural persons, who are engaged in the cultivation of any cannabis product, may form an association pursuant to this chapter for the purpose of engaging in any activity in connection with any of the following:
   (1) The cultivation, marketing, or selling of the cannabis products of its members.
   (2) The growing, harvesting, curing, drying, trimming, packing, grading, storing, or handling of any product of its members.
   (3) The manufacturing, selling, or supplying to its members of machinery, equipment, or supplies.
   (4) The financing of the activities that are specified by this section.
(b) Members of a cannabis cooperative shall be disclosed to the licensing authority before the application is processed.
(c) Members of a cannabis cooperative formed pursuant to this chapter shall be limited to cultivators who only hold a single Type 1 or Type 2 license.
(d) Collectively, members of a cannabis cooperative shall not grow more than four acres of total canopy size of cultivation throughout the state during the period that the respective licensees are valid.
(e) No member of a cooperative formed pursuant to this section shall be licensed to operate a cannabis business in another state or country.

ARTICLE 4. PURPOSES

26224.
The articles of incorporation of an association shall show that the signers of the articles of incorporation are engaged in the cultivation of cannabis products, and that they propose to incorporate an association pursuant to this chapter, and shall state all of the following:
(a) The name of the association.
(b) The purposes for which it is formed.
(c) The city, county, or city and county where the principal office for the transaction of business of the association is to be located.
(d) The number of directors of the association, which shall not be less than three, and the names and addresses of the persons who are to serve as first directors. If it is desired that the first directors shall serve for terms of different lengths, the term for which each person so named to serve shall also be stated.
(e) If organized without shares of stock, whether the voting power and the property rights and interest of each member are equal or unequal. If voting power and property rights and interest of each member are unequal, the general rule or rules that are applicable to all members by which the voting power and the property rights and interests, respectively, of each member may be and are determined and fixed shall also be stated.
(f) (1) If organized with shares of stock, the number of shares that may be issued and if the shares are to have a par value, the par value of each share, and the aggregate par value of all shares. If the shares are to be without par value, it shall be so stated.
   (2) If the shares of stock are to be classified, a description of the classes of shares and a statement of the number of shares of each kind or class and the nature and extent of the preferences, rights, privileges, and restrictions that are granted to or imposed upon the holders of the respective classes of stock. Except as to the matters and things so stated, no distinction shall exist between the classes of stock or the holders of them. One class of stock shall always be known as common stock, and voting power may be restricted to holders of common stock.

26224.1.
Articles of incorporation shall be signed, acknowledged, and filed in the manner that is prescribed by the general laws of this state for domestic corporations.

26224.2.

September 18, 2017 – This document may not contain the most recent statute language
The articles of incorporation of any association may be amended in the manner and for the purposes which are authorized by the General Corporation Law, Division 1 (commencing with Section 100) of Title 1 of the Corporations Code.

**ARTICLE 5. BYLAWS**

26225. Each association shall, within 30 days after its incorporation, adopt for its government and management, a code of bylaws, consistent with this chapter. The vote or written assent of shareholders or members that hold at least a majority of the voting power is necessary to adopt the bylaws and is effectual to repeal or amend a bylaw, or to adopt an additional bylaw. The power to repeal and amend the bylaws, and adopt new bylaws, may, by a similar vote, or similar written assent, be delegated to the board of directors, which authority may, by a similar vote, or similar written assent, be revoked.

26225.1. The bylaws may prescribe the time, place, and manner of calling and conducting its meetings. Meetings of members or stockholders shall be held at the place as provided in the bylaws, or, if no provision is made, in the city, county, or city and county where the principal place of business is located at a place designated by the board of directors. Meetings of the board of directors may be held at any place within or without the state that is fixed by a quorum of the board of directors unless otherwise provided in the articles of incorporation or bylaws.

26225.2. The bylaws may prescribe the number of stockholders, directors, or members that constitutes a quorum.

26225.3. The bylaws may prescribe the following:
(a) The right of members or stockholders to vote by proxy or by mail or both, and the conditions, manner, form, and effects of those votes.
(b) The right of members or stockholders to cumulate their votes and the prohibition, if any, of cumulative voting.

26225.4. (a) The bylaws may prescribe the qualifications, compensation, duties, and term of office of directors and officers and the time of their election.
(b) The number of directors set forth in the articles of incorporation shall be either a fixed number or a variable number. If a fixed number, it shall not be less than three, and if a variable number, the stated minimum shall not be less than three and the stated maximum shall not be greater than two times the stated minimum minus one.
(c) The number of directors may also be set forth in the bylaws either as a fixed number or as a variable number subject to the same limitations as in subdivision (b). After shares have been issued or members have been admitted, any adoption or amendment of the bylaw provision shall be approved by the outstanding shares as provided in Section 152 of the Corporations Code.
(d) In the event of an inconsistency between an article provision referred to in subdivision (b) and a bylaw provision referred to in subdivision (c), the provision more recently adopted or amended shall prevail.
(e) If a variable number of directors is set forth in the articles of incorporation or the bylaws, the exact number of directors shall be fixed, within the limits specified, by approval of the board of directors or the shareholders as provided in Section 153 of the Corporations Code in the manner designated in the bylaws.

26225.5. The bylaws may prescribe penalties for violations of the bylaws.
26225.6. The bylaws may prescribe the amount of entrance, organization, and membership fees, if any, the manner and method of collection of the fees, and the purposes for which they may be used.

26225.7. The bylaws may prescribe the amount that each member or stockholder shall be required to pay annually, or from time to time, if at all, to carry on the business of the association, the charge, if any, to be paid by each member or stockholder for services that are rendered by the association to him, the time of payment and the manner of collection, and the marketing contract between the association and its members or stockholders that every member or stockholder may be required to sign.

26225.8. The bylaws may prescribe the amount of dividends, if any, that may be declared on the stock or membership capital. To the extent that dividends are payable out of the excess of association income over association expenses attributable to business transacted with or for members, dividends shall not exceed 8 percent per annum.

26225.9. The bylaws may prescribe any of the following:
   (a) The number and qualification of members or stockholders of the association and the conditions precedent to membership or ownership of common stock.
   (b) The method, time, and manner of permitting members to withdraw or the holders of common stock to transfer their stock.
   (c) The manner of assignment and transfer of the interest of members, and of the shares of common stock.
   (d) The conditions under which, and time when, membership of a member shall cease.
   (e) The automatic suspension of the rights of a member when he or she ceases to be eligible to membership in the association.
   (f) The mode, manner, and effect of the expulsion of a member.

26225.95. (a) The bylaws may prescribe any of the following:
   (1) The manner of determining the value of a member’s interest and provision for its purchase by the association upon the death or withdrawal of a member or upon the expulsion of a member or forfeiture of his or her membership, or at the option of the association, the purchase at a price fixed by conclusive appraisal by the board of directors.
   (2) The conditions and terms for the repurchase by the association from its stockholders of their stock upon their disqualification as stockholders.
   (b) If a member is expelled and the bylaws do not provide any procedure or penalty for expulsion, the board of directors shall equitably and conclusively appraise his or her property interest in the association and shall fix the amount of his or her property interest in money, which shall be paid to him or her within one year after such expulsion.

ARTICLE 6. DIRECTORS AND MANAGEMENT

26226. The affairs of the association shall be managed by a board of not less than three directors who are elected by the members or stockholders.

26226.1. The bylaws may provide that the territory in which the association has members shall be divided into districts and that directors shall be elected from the several districts. If the bylaws divide the territory into districts for the election of directors, the bylaws shall specify the number of directors to be elected by each district and the manner and method of reapportioning the directors and of redistricting the territory covered by the association.

September 18, 2017 – This document may not contain the most recent statute language
Page | 51
26226.2.
The bylaws may provide that primary elections shall be held to nominate directors. If the bylaws provide that the territory in which the association has members shall be divided into districts, the bylaws may also provide that the results of the primary elections in the various districts shall be final and shall be ratified at the annual meeting of the association.

26226.3.
The bylaws may provide that the territory in which the association has members shall be divided into districts, and that the directors shall be elected by representatives or advisers, who themselves have been elected by the members or stockholders from the several territorial districts. If the bylaws divide the territory into districts for the election of representatives or advisers who elect the directors, the bylaws shall specify the number of representatives or advisers to be elected by each district and the manner and method of reapportioning the representatives or advisers and of redistricting the territory that is covered by the association.

26226.4.
The bylaws may provide that one or more directors may be chosen by a public official or commission or by the other directors selected by the members. The director shall represent primarily the interest of the general public in the association. The director shall have the same powers and rights as other directors. These directors shall not number more than one-fifth of the entire number of directors.

26226.5.
The bylaws may provide for an executive committee and may allot to the committee all the functions and powers of the board of directors, subject to the general direction and control of the board.

26226.6.
An association may provide a fair remuneration for the time that is actually spent by its officers and directors in its service and for the service of the members of its executive committee.

26226.7.
If a vacancy on the board of directors occurs, except by expiration of term, the remaining members of the board, by a majority vote, shall fill the vacancy, unless the bylaws provide for an election of directors by districts. If the bylaws provide for an election of directors by districts, the vacancy shall be filled either by the election of a director from the district in which the vacancy occurs or by the board of directors calling a special meeting of the members or stockholders in that district to fill the vacancy.

26226.8.
(a) The directors shall elect a president, one or more vice presidents, a secretary, a treasurer, and such other officers as may be prescribed by the bylaws. Any two or more offices, except those of president and secretary, may be held by the same person.
(b) The treasurer may be a bank or a depository and, as such, shall not be considered as an officer, but as a function of the board of directors. In such case, the secretary shall perform the usual accounting duties of the treasurer, except that the funds shall be deposited only as and where authorized by the board of directors.

26226.9.
(a) A member may bring charges against an officer or director by filing them in writing with the secretary of the association, together with a petition that is signed by 5 percent of the members, which requests the removal of the officer or director in question. The removal shall be voted upon at the next regular or special meeting of the association and, by a vote of a majority of the members, the association may remove the officer or director and fill the vacancy. The director or officer, against whom the charges have been brought, shall be informed in writing of the charges previous to the meeting and shall have an opportunity at the meeting to be heard in person or by counsel and to present witnesses. The person bringing the charges against him or her shall have the same opportunity.
(b) If the bylaws provide for election of directors by districts with primary elections in each district, the petition for removal of a director shall be signed by 20 percent of the members that reside in the district from which the director was elected. The board of directors shall call a special meeting of the members who reside in that district to consider the removal of the director. By a vote of the majority of the members of that district at the special meeting, the director in question shall be removed from office.

ARTICLE 7. POWERS

26227. An association may engage in any activity in connection with the growing, harvesting, curing, drying, trimming, packing, grading, storing, or handling of any cannabis product that is produced or delivered to it by its members; or any activity in connection with the purchase, hiring, or use by its members of supplies, machinery, or equipment, or in the financing of any such activities; or in any one or more of the activities that are specified in this section with a valid license.

26227.1. An association may borrow without limitation as to the amount of corporate indebtedness or liability and may make advances to members.

26227.2. An association may act as the agent or representative of any member or members in any of the activities specified in Section 26226.2 or 26226.3.

26227.3. An association may purchase or otherwise acquire, hold, own, and exercise all rights of ownership in, sell, transfer, pledge, or guarantee the payment of dividends or interest on, or the retirement or redemption of, shares of the capital stock or bonds of an association that is engaged in any related activity or in the growing, harvesting, curing, drying, trimming, packing, grading, storing, or handling of a cannabis product that is handled by the association.

26227.4. An association may establish reserves and invest the funds of the reserves in bonds or in other property as may be provided in the bylaws.

26227.5. An association may buy, hold, and exercise all privileges of ownership over such real or personal property as may be necessary or convenient for the conduct and operation of, or incidental to, the business of the association.

26227.6. An association may levy assessments in the manner and in the amount as may be provided in its bylaws.

26227.7. An association may do any of the following anywhere:
   (a) That which is what is necessary, suitable, or proper for the accomplishment of a purpose, or the attainment of an object, that is enumerated in this article.
   (b) That which is conducive to, or expedient for, the interest or benefit of the association.
   (c) Contract accordingly.
   (d) Exercise and possess all powers, rights, and privileges that are necessary or incidental to the purposes for which the association is organized or to the activities in which it is engaged.
   (e) Exercise any other rights, powers, and privileges that are granted by the laws of this state to ordinary corporations, except such as are inconsistent with the express provisions of this chapter.
26227.75.  An association may use or employ any of its facilities for any purpose, provided the proceeds that arise from such use and employment shall go to reduce the cost of operation for its members. The cannabis products that are handled for, or the services, machinery, equipment, or supplies or facilities that are furnished to, nonmembers shall not, however, exceed in value the cannabis products that are handled for, or the services, merchandise, or facilities that are supplied to, members during the same period.

26227.8.  
(a) An association may organize, form, operate, own, control, have an interest in, own stock of, or be a member of any other association, with or without capital stock, that is engaged in growing, harvesting, curing, drying, trimming, packing, grading, storing, or handling of any cannabis product that is handled by the association, or the byproducts of the cannabis product.
(b) Any two or more associations that are organized pursuant to this section may be merged into one constituent association or consolidated into a new association. The merger or consolidation shall be made in the manner that is prescribed by the general laws of the state that cover domestic corporations.

26227.9.  
(a) Any association may, upon resolution adopted by its board of directors, enter into all necessary and proper contracts and agreements and make all necessary and proper stipulations and arrangements with another cannabis cooperative or association that is formed in this state for the cannabis cooperative and more economical carrying on of its business or any part of its business.
(b) Any two or more associations may, by agreement between them, unite in employing and using, or may separately employ and use, the same personnel, methods, means, and agencies for carrying on and conducting their respective business.

ARTICLE 8. FINANCIAL PROVISIONS

26228.  An association is not subject in any manner to the terms of the Corporate Securities Law (Division 1 (commencing with Section 25000) of Title 4 of the Corporations Code), and any association may issue its membership certificates or stock or other securities as provided in this chapter without the necessity of any qualification under that law.

26228.1.  If an association issues nonpar value stock, the issuance of the stock shall be governed by the terms of all general laws that cover the issuance of nonpar value stock in domestic corporations.

26228.2.  If an association with preferred shares of stock purchases the stock or any property, or any interest in any property of any person, it may discharge the obligations that are so incurred, wholly or in part, by exchanging for the acquired interest, shares of its preferred stock to an amount that at par value would equal the fair market value of the stock or interest so purchased, as determined by the board of directors. In that case, the transfer to the association of the stock or interest that is purchased is equivalent to payment in cash for the shares of stock that are issued.

26228.3.  The board of directors of every association shall cause to be sent to the members of the association not later than 120 days after the close of the fiscal or calendar year an annual report of the operations of the association, unless the report is expressly dispensed with in the bylaws. If required by the bylaws, interim reports of the operations of the association for the three-month, six-month, or nine-month periods of the current fiscal year of the association shall be furnished to the members of the association. Such annual report and any such interim reports shall include a balance sheet as of such closing date. Such financial statement shall be prepared from, and be in accordance with, the books. It shall be prepared in a form

September 18, 2017 – This document may not contain the most recent statute language
Page | 54
that is sanctioned by sound accounting practice for the association or approved by a duly certified public accountant or a public accountant.

ARTICLE 9. MEMBERS

26229. Under the terms and conditions that are prescribed in the bylaws adopted by it, an association may admit as members or issue common stock only to persons engaged in the cultivation of a cannabis product that is to be handled by or through the association.

26229.1. If a member of a nonstock association is other than a natural person, the member may be represented by any individual, associate, officer, or manager or member of it, who is duly authorized in writing.

26229.2. Any association may become a member or stockholder of any other association.

26229.3. If a member of an association that is established without shares of stock has paid his membership fee in full, he or she shall receive a certificate of membership.

26229.4. An association shall not issue a certificate for stock to a member until it has been fully paid for. The promissory notes of the members may be accepted by the association as full or partial payment. The association shall hold the stock as security for the payment of the note, but the retention as security does not affect the member’s right to vote.

26229.5. An association, in its bylaws, may limit the amount of common stock that any member may own.

26229.6. The bylaws shall prohibit the transfer of the common stock or membership certificates of the associations to a person that is not qualified to be a shareholder or member as specified in this chapter. These restrictions shall be printed upon every certificate of stock or membership that is subject to them.

26229.7. The association may, at any time, as specified in the bylaws, except when the debts of the association exceed 50 percent of its assets, buy in or purchase its common stock at the book value of the common stock, as conclusively determined by the board of directors, and pay for it in cash within one year thereafter.

26229.8. A member or stockholder is not liable for the debts of the association to an amount that exceeds the sum that remains unpaid on his membership fee or his subscription to the capital stock, including any unpaid balance on any promissory note that is given in payment of the membership fee or the subscription to the capital stock.

ARTICLE 10. MARKETING CONTRACTS

26230. The association and its members may make and execute marketing contracts that require the members to sell, for any period of time, but not over 15 years, all or a specified part of a cannabis product exclusively to or through the association, or a facility that is created by the association. If the members contract a sale to the association, title to the cannabis product passes absolutely and unreservedly.
except for recorded liens, to the association upon delivery or at another specified time that is expressly and definitely agreed in the contract.

26230.1. Notwithstanding any provisions of the Civil Code, a contract that is entered into by a member or stockholder of an association that provides for the delivery to the association of a cannabis product that is produced or acquired by the member or stockholder may be specifically enforced by the association to secure the delivery to it of the cannabis product.

26230.2. The bylaws or a marketing contract may fix, as liquidated damages, specific sums to be paid by the member or stockholder to the association upon the breach by him or her of any provision of the marketing contract regarding the sale or delivery or withholding of a cannabis product and may provide that the member will pay all costs, premiums for bonds, expenses, and fees, if any action is brought upon the contract by the association. These provisions are valid and enforceable in the courts of this state. The clauses that provide for liquidated damages are enforceable as such and shall not be regarded as penalties.

26230.3. If there is a breach or threatened breach of a marketing contract by a member, the association shall be entitled to an injunction to prevent the further breach of the contract and to a decree of specific performance of the contract. Pending the adjudication of the action and upon filing a verified complaint that shows the breach or threatened breach, and upon filing a sufficient bond, the association shall be entitled to a temporary restraining order and preliminary injunction against the member.

ARTICLE 11. REORGANIZATION OF CORPORATIONS ORGANIZED PURSUANT TO OTHER LAWS

26231. A corporation that is organized or existing pursuant to any law except Title 23 (commencing with Section 653aa) of Part 4 of Division 1 of the Civil Code may be brought under the provisions of this chapter by amending its articles of incorporation, in the manner that is prescribed by the general corporation laws, to conform to this chapter. If a corporation amends its articles of incorporation to conform to this chapter, it shall be deemed to be organized and existing pursuant to, and entitled to the benefit of, and subject to this chapter for all purposes and as fully as though it had been originally organized pursuant to this chapter.

26231.1. Articles of incorporation shall be deemed to conform to this chapter within the meaning of Section 26231 if it clearly appears from the articles of incorporation that the corporation desires to be subject to, and to be organized, exist, and function pursuant to this chapter.

26231.2. If the amended articles conform, as provided in Section 26231.1, provisions in the articles of incorporation that appeared in the original articles or some previous amended articles, are ineffective if, and to the extent that, they are inapplicable to, or inconsistent with, this chapter.
GOVERNMENT CODE

SECTION 11553 OF THE GOVERNMENT CODE IS AMENDED TO READ:

11553.
(a) Effective January 1, 1988, an annual salary of eighty-one thousand six hundred thirty-five dollars ($81,635) shall be paid to each of the following:
   (1) Chairperson of the Unemployment Insurance Appeals Board.
   (2) Chairperson of the Agricultural Labor Relations Board.
   (3) President of the Public Utilities Commission.
   (4) Chairperson of the Fair Political Practices Commission.
   (6) Chairperson of the Public Employment Relations Board.
   (7) Chairperson of the Workers’ Compensation Appeals Board.
   (8) Administrative Director of the Division of Industrial Accidents.
   (9) Chairperson of the State Water Resources Control Board.
   (10) Chairperson of the Cannabis Control Appeals Panel.
(b) The annual compensation provided by this section shall be increased in any fiscal year in which a general salary increase is provided for state employees. The amount of the increase provided by this section shall be comparable to, but shall not exceed, the percentage of the general salary increases provided for state employees during that fiscal year.
(c) Notwithstanding subdivision (b), any salary increase is subject to Section 11565.5.

SECTION 11553.5 OF THE GOVERNMENT CODE IS AMENDED TO READ:

11553.5.
(a) Effective January 1, 1988, an annual salary of seventy-nine thousand one hundred twenty-two dollars ($79,122) shall be paid to the following:
   (1) Member of the Agricultural Labor Relations Board.
   (2) Member of the State Energy Resources Conservation and Development Commission.
   (3) Member of the Public Utilities Commission.
   (4) Member of the Public Employment Relations Board.
   (5) Member of the Unemployment Insurance Appeals Board.
   (6) Member of the Workers’ Compensation Appeals Board.
   (7) Member of the State Water Resources Control Board.
   (8) Member of the Cannabis Control Appeals Panel.
(b) The annual compensation provided by this section shall be increased in any fiscal year in which a general salary increase is provided for state employees. The amount of the increase provided by this section shall be comparable to, but shall not exceed, the percentage of the general cost-of-living salary increases provided for state employees during that fiscal year.
(c) Notwithstanding subdivision (b), any salary increase is subject to Section 11565.5.

FISH AND GAME CODE

SECTION 1602 OF THE FISH AND GAME CODE IS AMENDED TO READ:

1602.
(a) An entity shall not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake, unless all of the following occur:

September 18, 2017 – This document may not contain the most recent statute language
Page | 57
Comprehensive
Medicinal and Adult-Use Cannabis Regulation and Safety Act
Senate Bill 94, Proposition 64, and Assembly Bill 133

(1) The department receives written notification regarding the activity in the manner prescribed by the department. The notification shall include, but is not limited to, all of the following:
   (A) A detailed description of the project’s location and a map.
   (B) The name, if any, of the river, stream, or lake affected.
   (C) A detailed project description, including, but not limited to, construction plans and drawings, if applicable.
   (D) A copy of any document prepared pursuant to Division 13 (commencing with Section 21000) of the Public Resources Code.
   (E) A copy of any other applicable local, state, or federal permit or agreement already issued.
   (F) Any other information required by the department.

(2) The department determines the notification is complete in accordance with Chapter 4.5 (commencing with Section 65920) of Division 1 of Title 7 of the Government Code, irrespective of whether the activity constitutes a development project for the purposes of that chapter.

(3) The entity pays the applicable fees, pursuant to Section 1609.

(4) One of the following occurs:
   (A) (i) The department informs the entity, in writing, that the activity will not substantially adversely affect an existing fish or wildlife resource, and that the entity may commence the activity without an agreement, if the entity conducts the activity as described in the notification, including any measures in the notification that are intended to protect fish and wildlife resources.
       (ii) Each region of the department shall log the notifications of activities where no agreement is required. The log shall list the date the notification was received by the department, a brief description of the proposed activity, and the location of the activity. Each item shall remain on the log for one year. Upon written request by any person, a regional office shall send the log to that person monthly for one year. A request made pursuant to this clause may be renewed annually.
   (B) The department determines that the activity may substantially adversely affect an existing fish or wildlife resource and issues a final agreement to the entity that includes reasonable measures necessary to protect the resource, and the entity conducts the activity in accordance with the agreement.
   (C) A panel of arbitrators issues a final agreement to the entity in accordance with subdivision (b) of Section 1603, and the entity conducts the activity in accordance with the agreement.
   (D) The department does not issue a draft agreement to the entity within 60 days from the date notification is complete, and the entity conducts the activity as described in the notification, including any measures in the notification that are intended to protect fish and wildlife resources.

(b) (1) If an activity involves the routine maintenance and operation of water supply, drainage, flood control, or waste treatment and disposal facilities, notice to and agreement with the department shall not be required after the initial notification and agreement, unless the department determines either of the following:
   (A) The work described in the agreement has substantially changed.
   (B) Conditions affecting fish and wildlife resources have substantially changed, and those resources are adversely affected by the activity conducted under the agreement.

(2) This subdivision applies only if notice to, and agreement with, the department was attained prior to January 1, 1977, and the department has been provided a copy of the agreement or other proof of the existence of the agreement that satisfies the department, if requested.

(c) Notwithstanding subdivision (a), the department is not required to determine whether the notification is complete or otherwise process the notification until the department has received the applicable fees.

(d) (1) Notwithstanding subdivision (a), an entity shall not be required to obtain an agreement with the department pursuant to this chapter for activities authorized by a license or renewed license for cannabis cultivation issued by the Department of Food and Agriculture for the term of the license or renewed license if all of the following occur:
   (A) The entity submits all of the following to the department:
       (i) The written notification described in paragraph (1) of subdivision (a).
(ii) A copy of the license or renewed license for cannabis cultivation issued by the Department of Food and Agriculture that includes the requirements specified in Section 26060.1 of the Business and Professions Code.

(iii) The fee specified in paragraph (3) of subdivision (a).

(B) The department determines in its sole discretion that compliance with the requirements specified in Section 26060.1 of the Business and Professions Code that are included in the license will adequately protect existing fish and wildlife resources that may be substantially adversely affected by the cultivation without the need for additional measures that the department would include in a draft streambed alteration agreement in accordance with Section 1603.

(C) The department notifies the entity in writing that the exemption applies to the cultivation authorized by the license or renewed license.

(2) The department shall notify the entity in writing whether the exemption in paragraph (1) applies to the cultivation authorized by the license or renewed license within 60 days from the date that the notification is complete and the fee has been paid.

(3) If an entity receives an exemption pursuant to this subdivision and fails to comply with any of the requirements described in Section 26060.1 of the Business and Professions Code that are included in the license, the failure shall constitute a violation under this section, and the department shall notify the Department of Food and Agriculture of any enforcement action taken.

(e) It is unlawful for any entity to violate this chapter.

SECTION 1617 OF THE FISH AND GAME CODE IS AMENDED TO READ:

1617.
(a) The department may adopt general agreements for the cultivation of cannabis.

(b) Any general agreement adopted by the department subsequent to adoption of regulations under this section shall be in lieu of an individual agreement described in subparagraph (B) of paragraph (4) of subdivision (a) of Section 1602.

(c) Subparagraph (D) of paragraph (4) of subdivision (a) of Section 1602 and all other time periods to process agreements specified in this chapter do not apply to the issuance of a general agreement adopted by the department pursuant to this section.

(d) Any general agreement issued by the department pursuant to this section is a final agreement and is not subject to Section 1603 or 1604.

(e) The department shall charge a fee for a general agreement adopted by the department under this section in accordance with Section 1609.

(f) If the department adopts or amends a general agreement under this section, it shall do so as an emergency regulation. An emergency regulation adopted pursuant to this section, and any amendments to it, shall be adopted by the department in accordance with Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code. The adoption of these regulations is an emergency and shall be considered by the Office of Administrative Law as necessary for the immediate preservation of the public peace, health and safety, and general welfare. Notwithstanding Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code, an emergency regulation adopted by the department, or any amendments to it made by the department pursuant to this section, shall stay in effect until revised by the department.

(g) Regulations adopted pursuant to this section, and any amendment thereto, shall not be subject to Division 13 (commencing with Section 21000) of the Public Resources Code.
FOOD AND AGRICULTURAL CODE

SECTION 37104 OF THE FOOD AND AGRICULTURAL CODE IS AMENDED TO READ:

37104.
Notwithstanding Section 26001 of the Business and Professions Code, butter purchased from a licensed milk products plant or retail location that is subsequently infused or mixed with medicinal or adult-use cannabis at the premises or location that is not subject to licensing as a milk product plant is exempt from the provisions of this division.

SECTION 54036 OF THE FOOD AND AGRICULTURAL CODE IS AMENDED TO READ:

54036.
A person, firm, corporation, or association, that is hereafter organized or doing business in this state, may not use the word “cooperative” as part of its corporate name or other business name or title for producers' cooperative marketing activities, unless it has complied with this chapter or is otherwise authorized by Chapter 22 (commencing with Section 26220) of Division 10 of the Business and Professions Code.

81000.
For purposes of this division, the following terms have the following meanings:
(a) "Board" means the Industrial Hemp Advisory Board.
(b) "Commissioner" means the county agricultural commissioner.
(c) "Established agricultural research institution" any institution that is either:
   (1) A public or private institution or organization that maintains land or facilities for agricultural research, including colleges, universities, agricultural research centers, and conservation research centers; or
   (2) An institution of higher education (as defined in Section 1001 of the Higher Education Act of 1965 (20 U.S.C. 1001)) that grows, cultivates or manufactures industrial hemp for purposes of research conducted under an agricultural pilot program or other agricultural or academic research.
(d) "Industrial hemp" has the same meaning as that term is defined in Section 11018.5 of the Health and Safety Code.
(e) "Secretary" means the Secretary of Food and Agriculture.
(f) "Seed breeder" means an individual or public or private institution or organization that is registered with the commissioner to develop seed cultivars intended for sale or research.
(g) "Seed cultivar" means a variety of industrial hemp.
(h) "Seed development plan" means a strategy devised by a seed breeder, or applicant seed breeder, detailing his or her planned approach to growing and developing a new seed cultivar for industrial hemp.

81006.
(a) (1) Except when grown by an established agricultural research institution or a registered seed breeder, industrial hemp shall be grown only as a densely planted fiber or oilseed crop, or both, in acreages of not less than one-tenth of an acre at the same time,
   (2) Registered seed breeders, for purposes of seed production, shall only grow industrial hemp as a densely planted crop in acreages of not less than one-tenth of an acre at the same time,
   (3) Registered seed breeders, for purposes of developing a new California seed cultivar, shall grow industrial hemp as densely as possible in dedicated acreage of not less than one-tenth of an acre and in accordance with the seed development plan. The entire area of the dedicated acreage is not required to be used for the cultivation of the particular seed cultivar.
(b) Ornamental and clandestine cultivation of industrial hemp is prohibited. All plots shall have adequate signage indicating they are industrial hemp.
(c) Pruning and tending of individual industrial hemp plants is prohibited, except when grown by an established agricultural research institution or when the action is necessary to perform the tetrahydrocannabinol (THC) testing described in this section.

(d) Culling of industrial hemp is prohibited, except when grown by an established agricultural research institution, when the action is necessary to perform the THC testing described in this section, or for purposes of seed production and development by a registered seed breeder.

(e) Industrial hemp shall include products imported under the Harmonized Tariff Schedule of the United States (2013) of the United States International Trade Commission, including, but not limited to, hemp seed, per subheading 1207.99.03, hemp oil, per subheading 1515.90.80, oilcake, per subheading 2308.90.01, true hemp, per heading 5302, true hemp yarn, per subheading 5308.20.00, and woven fabrics of true hemp fibers, per subheading 5311.00.40.

(f) Except when industrial hemp is grown by an established agricultural research institution, a registrant that grows industrial hemp under this section shall, before the harvest of each crop and as provided below, obtain a laboratory test report indicating the THC levels of a random sampling of the dried flowering tops of the industrial hemp grown.

1. Sampling shall occur as soon as practicable when the THC content of the leaves surrounding the seeds is at its peak and shall commence as the seeds begin to mature, when the first seeds of approximately 50 percent of the plants are resistant to compression.

2. The entire fruit-bearing part of the plant including the seeds shall be used as a sample. The sample cut shall be made directly underneath the inflorescence found in the top one-third of the plant.

3. The sample collected for THC testing shall be accompanied by the following documentation:
   (A) The registrant's proof of registration.
   (B) Seed certification documentation for the seed cultivar used.
   (C) The THC testing report for each certified seed cultivar used.

4. The laboratory test report shall be issued by a laboratory registered with the federal Drug Enforcement Administration, shall state the percentage content of THC, shall indicate the date and location of samples taken, and shall state the Global Positioning System coordinates and total acreage of the crop. If the laboratory tests report indicates a percentage content of THC that is equal to or less than three-tenths of 1 percent, the words "PASSED AS CALIFORNIA INDUSTRIAL HEMP" shall appear at or near the top of the laboratory test report. If the laboratory test report indicates a percentage content of THC that is greater than three-tenths of 1 percent, the words "FAILED AS CALIFORNIA INDUSTRIAL HEMP" shall appear at or near the top of the laboratory test report.

5. If the laboratory test report indicates a percentage content of THC that is equal to or less than three-tenths of 1 percent, the laboratory shall provide the person who requested the testing not less than 10 original copies signed by an employee authorized by the laboratory and shall retain one or more original copies of the laboratory test report for a minimum of two years from its date of sampling.

6. If the laboratory test report indicates a percentage content of THC that is greater than three tenths of 1 percent and does not exceed 1 percent, the registrant that grows industrial hemp shall submit additional samples for testing of the industrial hemp grown.

7. A registrant that grows industrial hemp shall destroy the industrial hemp grown upon receipt of a first laboratory test report indicating a percentage content of THC that exceeds 1 percent or a second laboratory test report pursuant to paragraph (6) indicating a percentage content of THC that exceeds three-tenths of 1 percent but is less than 1 percent. If the percentage content of THC exceeds 1 percent, the destruction shall take place within 48 hours after receipt of the laboratory test report. If the percentage content of THC in the second laboratory test report exceeds three-tenths of 1 percent but is less than 1 percent, the destruction shall take place as soon as practicable, but no later than 45 days after receipt of the second test report.

8. A registrant that intends to grow industrial hemp and who complies with this section shall not be prosecuted for the cultivation or possession of marijuana as a result of a laboratory test report that indicates a percentage content of THC that is greater than three-tenths of 1 percent but does not exceed 1 percent.
(9) Established agricultural research institutions shall be permitted to cultivate or possess industrial hemp with a laboratory test report that indicates a percentage content of THC that is greater than three-tenths of 1 percent if that cultivation or possession contributes to the development of types of industrial hemp that will comply with the three-tenths of 1 percent THC limit established in this division.

(10) Except for an established agricultural research institution, a registrant that grows industrial hemp shall retain an original signed copy of the laboratory test report for two years from its date of sampling, make an original signed copy of the laboratory test report available to the department, the commissioner, or law enforcement officials or their designees upon request, and shall provide an original copy of the laboratory test report to each person purchasing, transporting, or otherwise obtaining from the registrant that grows industrial hemp the fiber, oil, cake, or seed, or any component of the seed, of the plant.

(g) If, in the Attorney General's opinion issued pursuant to Section 8 of the act that added this division, it is determined that the provisions of this section are not sufficient to comply with federal law, the department, in consultation with the board, shall establish procedures for this section that meet the requirements of federal law.

81008.
(a) Not later than January 1, 2019, the Attorney General shall report to the Assembly and Senate Committees on Agriculture and the Assembly and Senate Committees on Public Safety the reported incidents, if any, of the following:
   (1) A field of industrial hemp being used to disguise marijuana cultivation.
   (2) Claims in a court hearing by persons other than those exempted in subdivision (f) of Section 81006 that marijuana is industrial hemp.

(b) A report submitted pursuant to subdivision (a) shall be submitted in compliance with Section 9795 of the Government Code.

(c) Pursuant to Section 10231.5 of the Government Code, this section is repealed on January 1, 2023, or four years after the date that the report is due, whichever is later.

SECTION 81010 OF THE FOOD AND AGRICULTURAL CODE IS AMENDED TO READ:

81010.
This division and Section 221 shall become operative on January 1, 2017.

HEALTH AND SAFETY CODE

SECTION 11006.5 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11006.5.
“Concentrated cannabis” means the separated resin, whether crude or purified, obtained from cannabis.

SECTION 11014.5 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11014.5.
(a) “Drug paraphernalia” means all equipment, products and materials of any kind which are designed for use or marketed for use, in planting, propagating, cultivating, growing, harvesting, manufacturing, compounding, converting, producing, processing, preparing, testing, analyzing, packaging, repackaging, storing, containing, concealing, injecting, ingesting, inhaling, or otherwise introducing into the human body a controlled substance in violation of this division. It includes, but is not limited to:
   (1) Kits designed for use or marketed for use in planting, propagating, cultivating, growing, or harvesting of any species of plant which is a controlled substance or from which a controlled substance can be derived.
(2) Kits designed for use or marketed for use in manufacturing, compounding, converting, producing, processing, or preparing controlled substances.
(3) Isomerization devices designed for use or marketed for use in increasing the potency of any species of plant which is a controlled substance.
(4) Testing equipment designed for use or marketed for use in identifying, or in analyzing the strength, effectiveness, or purity of controlled substances.
(5) Scales and balances designed for use or marketed for use in weighing or measuring controlled substances.
(6) Containers and other objects designed for use or marketed for use in storing or concealing controlled substances.
(7) Hypodermic syringes, needles, and other objects designed for use or marketed for use in parenterally injecting controlled substances into the human body.
(8) Objects designed for use or marketed for use in ingesting, inhaling, or otherwise introducing cannabis, cocaine, hashish, or hashish oil into the human body, such as:
   (A) Carburetion tubes and devices.
   (B) Smoking and carburetion masks.
   (C) Roach clips, meaning objects used to hold burning material, such as a cannabis cigarette, that has become too small or too short to be held in the hand.
   (D) Miniature cocaine spoons, and cocaine vials.
   (E) Chamber pipes.
   (F) Carburetor pipes.
   (G) Electric pipes.
   (H) Air-driven pipes.
   (I) Chillums.
   (J) Bongs.
   (K) Ice pipes or chillers.

(b) For the purposes of this section, the phrase “marketed for use” means advertising, distributing, offering for sale, displaying for sale, or selling in a manner which promotes the use of equipment, products, or materials with controlled substances.

c) In determining whether an object is drug paraphernalia, a court or other authority may consider, in addition to all other logically relevant factors, the following:
(1) Statements by an owner or by anyone in control of the object concerning its use.
(2) Instructions, oral or written, provided with the object concerning its use for ingesting, inhaling, or otherwise introducing a controlled substance into the human body.
(3) Descriptive materials accompanying the object which explain or depict its use.
(4) National and local advertising concerning its use.
(5) The manner in which the object is displayed for sale.
(6) Whether the owner, or anyone in control of the object, is a legitimate supplier of like or related items to the community, such as a licensed distributor or dealer of tobacco products.
(7) Expert testimony concerning its use.

d) If any provision of this section or the application thereof to any person or circumstance is held invalid, it is the intent of the Legislature that the invalidity shall not affect other provisions or applications of the section which can be given effect without the invalid provision or application and to this end the provisions of this section are severable.

SECTION 11018 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11018. “Cannabis” means all parts of the plant Cannabis sativa L., whether growing or not; the seeds thereof; the resin extracted from any part of the plant; and every compound, manufacture, salt, derivative, mixture, or preparation of the plant, its seeds or resin. It does not include either of the following:
(a) Industrial hemp, as defined in Section 11018.5.
(b) The weight of any other ingredient combined with cannabis to prepare topical or oral administrations, food, drink, or other product.
SECTION 11018.1 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11018.1.
“Cannabis products” means cannabis that has undergone a process whereby the plant material has been transformed into a concentrate, including, but not limited to, concentrated cannabis, or an edible or topical product containing cannabis or concentrated cannabis and other ingredients.

SECTION 11018.2 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11018.2.
“Cannabis accessories” means any equipment, products or materials of any kind which are used, intended for use, or designed for use in planting, propagating, cultivating, growing, harvesting, manufacturing, compounding, converting, producing, processing, preparing, testing, analyzing, packaging, repackaging, storing, smoking, vaporizing, or containing cannabis, or for ingesting, inhaling, or otherwise introducing cannabis or cannabis products into the human body.

SECTION 11018.5 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11018.5.
(a) “Industrial hemp” means a fiber or oilseed crop, or both, that is limited to types of the plant Cannabis sativa L. having no more than three-tenths of 1 percent tetrahydrocannabinol (THC) contained in the dried flowering tops, whether growing or not; the seeds of the plant; the resin extracted from any part of the plant; and every compound, manufacture, salt, derivative, mixture, or preparation of the plant, its seeds or resin produced therefrom.

(b) Industrial hemp shall not be subject to the provisions of this division or of Division 10 (commencing with Section 26000) of the Business and Professions Code, but instead shall be regulated by the Department of Food and Agriculture in accordance with the provisions of Division 24 (commencing with Section 81000) of the Food and Agricultural Code, inclusive.

SECTION 11032 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11032.
If reference is made to the term “narcotics” in any law not in this division, unless otherwise expressly provided, it means those controlled substances classified in Schedules I and II, as defined in this division. If reference is made to “restricted dangerous drugs” not in this division, unless otherwise expressly provided, it means those controlled substances classified in Schedules III and IV. If reference is made to the term “marijuana” in any law not in this division, unless otherwise expressly provided, it means cannabis as defined in this division.

SECTION 11054 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11054.
(a) The controlled substances listed in this section are included in Schedule I.

(b) Opiates. Unless specifically excepted or unless listed in another schedule, any of the following opiates, including their isomers, esters, ethers, salts, and salts of isomers, esters, and ethers whenever the existence of those isomers, esters, ethers, and salts is possible within the specific chemical designation:

1. Acetylmethadol.
2. Alpylyprodine.
3. Alphacetylmethadol (except levoalphacetylmethadol, also known as levo-alpha- acetylmethadol, levomethadyl acetate, or LAAM).
5. Alphamethadol.
Comprehensive Medicinal and Adult-Use Cannabis Regulation and Safety Act
Senate Bill 94, Proposition 64, and Assembly Bill 133

(6) Benzethidine.
(7) Betacetylmethadol.
(8) Betameprodine.
(9) Betamethadol.
(10) Betaprodine.
(11) Clonitazene.
(12) Dextromoramide.
(13) Diampromide.
(14) Diethylthiambutene.
(15) Difenoxin.
(16) Dimenoxadol.
(17) Dimethadone.
(18) Dimethylthiambutene.
(19) Dioxaphetyl butyrate.
(20) Dipipanone.
(21) Ethylmethylthiambutene.
(22) Etonitazene.
(23) Etoxeridine.
(24) Furethidine.
(25) Hydroxypethidine.
(26) Ketobemidone.
(27) Levomoramide.
(28) Levophenacylmorphan.
(29) Morpheridine.
(30) Noracymethadol.
(31) Norlevorphanol.
(32) Normethadone.
(33) Norpipanone.
(34) Phenadoxone.
(35) Phenamoramide.
(36) Phenomorphan.
(37) Phenoperidine.
(38) Piritramide.
(39) Proheptazine.
(40) Properidine.
(41) Propiram.
(42) Racemoramide.
(43) Tilidine.
(44) Trimeperidine.
(45) Any substance which contains any quantity of acetylfentanyl (N-[1-phenethyl-4-piperidiny] acetonilide) or a derivative thereof.
(46) Any substance which contains any quantity of the thiophene analog of acetylfentanyl (N-[1-[2-(2-thienyl)ethyl]-4-piperidiny] acetonilide) or a derivative thereof.
(47) 1-Methyl-4-Phenyl-4-Propionoxypiperidine (MPPP).
(48) 1-(2-Phenethyl)-4-Phenyl-4-Acetyloxyxypiperidine (PEPAP).

(c) Opium derivatives. Unless specifically excepted or unless listed in another schedule, any of the following opium derivatives, its salts, isomers, and salts of isomers whenever the existence of those salts, isomers, and salts of isomers is possible within the specific chemical designation:

(1) Acetorphine.
(2) Acetyldihydrocodeine.
(3) Benzylmorphine.
(4) Codeine methylbromide.
(5) Codeine-N-Oxide.
(6) Cyprenorphine.
(7) Desomorphine.
(8) Dihydromorphine.
(9) Drotubanol.
(10) Etorphine (except hydrochloride salt).
(11) Heroin.
(12) Hydromorphone.
(13) Methyldesorphine.
(14) Methyldihydromorphine.
(15) Morphone methylbromide.
(16) Morphone methylsulfonate.
(17) Morphone-N-Oxide.
(18) Myrophine.
(19) Nicocodeine.
(20) Nicomorphine.
(21) Normorphine.
(22) Pholcodine.
(23) Thebacon.

(d) Hallucinogenic substances. Unless specifically excepted or unless listed in another schedule, any material, compound, mixture, or preparation, which contains any quantity of the following hallucinogenic substances, or which contains any of its salts, isomers, and salts of isomers whenever the existence of those salts, isomers, and salts of isomers is possible within the specific chemical designation (for purposes of this subdivision only, the term “isomer” includes the optical, position, and geometric isomers):

(1) 4-bromo-2,5-dimethoxy-amphetamine—Some trade or other names: 4-bromo-2,5-dimethoxy-alpha-methylphenethylamine; 4-bromo-2,5-DMA.
(2) 2,5-dimethoxyamphetamine—Some trade or other names: 2,5-dimethoxy-alpha-methylphenethylamine; 2,5-DMA.
(3) 4-methoxyamphetamine—Some trade or other names: 4-methoxy-alpha-methylphenethylamine, paramethoxyamphetamine, PMA.
(4) 5-methoxy-3,4-methylenedioxo-amphetamine.
(5) 4-methyl-2,5-dimethoxy-amphetamine—Some trade or other names: 4-methyl-2,5-dimethoxy-alpha-methylphenethylamine; “DOM” and “STP.”
(6) 3,4-methylenedioxo amphetamine.
(7) 3,4,5-trimethoxy amphetamine.
(8) Bufotenine—Some trade or other names: 3-(beta-dimethylaminoethyl)-5-hydroxyindole; 3-(2-dimethylaminoethyl)-5 indolol; N,N-dimethylserolonin, 5-hydroxy,N,N-dimethyltryptamine; mappine.
(9) Diethyltryptamine—Some trade or other names: N,N-Diethyltryptamine; DET.
(10) Dimethyltryptamine—Some trade or other names: DMT.
(11) Ibogaine—Some trade or other names: 7-Ethyl-6,6beta, 7,8,9,10,12,13-octahydro-2-methoxy-6,9-methano-5H-pyrido [1‘,2‘:1,2] azepino [5,4-b] indole; Tabernantheiboga.
(12) Lysergic acid diethylamide.
(13) Cannabis.
(14) Mescaline.
(15) Peyote—Meaning all parts of the plant presently classified botanically as Lophophora williamsii Lemaire, whether growing or not, the seeds thereof, any extract from any part of the plant, and every compound, manufacture, salts, derivative, mixture, or preparation of the plant, its seeds or extracts (interprets 21 U.S.C. Sec. 812(c), Schedule 1(c)(12)).
(16) N-ethyl-3-piperidyl benzilate.
(17) N-methyl-3-piperidyl benzilate.
(18) Psilocybin.
(19) Psilocyn.
(20) Tetrahydrocannabinols. Synthetic equivalents of the substances contained in the plant, or in the resinous extractives of Cannabis, sp. and/or synthetic substances, derivatives, and their isomers with similar chemical structure and pharmacological activity such as the following: delta 1 cis or
trans tetrahydrocannabinol, and their optical isomers; delta 6 cis or trans tetrahydrocannabinol, and their optical isomers; delta 3,4 cis or trans tetrahydrocannabinol, and its optical isomers.

Because nomenclature of these substances is not internationally standardized, compounds of these structures, regardless of numerical designation of atomic positions covered.

(21) Ethylamine analog of phencyclidine—Some trade or other names: N-ethyl-1-phenylcyclohexylamine, (1-phenylcyclohexyl) ethylamine, N-(1-phenylcyclohexyl) ethylamine, cyclohexamine, PCE.

(22) Pyrrolidine analog of phencyclidine—Some trade or other names: 1-(1-phenylcyclohexyl)-pyrrolidine, PCP, PHP.

(23) Thiophene analog of phencyclidine—Some trade or other names: 1-[1-(2 thienyl)-cyclohexyl]-piperidine, 2-thienyl analog of phencyclidine, TPCP, TCP.

(e) Depressants. Unless specifically excepted or unless listed in another schedule, any material, compound, mixture, or preparation which contains any quantity of the following substances having a depressant effect on the central nervous system, including its salts, isomers, and salts of isomers whenever the existence of those salts, isomers, and salts of isomers is possible within the specific chemical designation:

(1) Mecloqualone.

(2) Methaqualone.

(3) Gamma hydroxybutyric acid (also known by other names such as GHB; gamma hydroxy butyrate; 4-hydroxybutyrate; 4-hydroxybutanoic acid; sodium oxybate; sodium oxybutyrate), including its immediate precursors, isomers, esters, ethers, salts, and salts of isomers, esters, and ethers, including, but not limited to, gammabutyrolactone, for which an application has not been approved under Section 505 of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. Sec. 355).

(f) Unless specifically excepted or unless listed in another schedule, any material, compound, mixture, or preparation which contains any quantity of the following substances having a stimulant effect on the central nervous system, including its isomers:

(1) Cocaine base.

(2) Fenethylline, including its salts.

(3) N-Ethylamphetamine, including its salts.

The heading of Article 2 (commencing with Section 11357) of Chapter 6 of Division 10 of the Health and Safety Code is amended to read: Article 2. Cannabis

SECTION 11357 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11357.
(a) Except as authorized by law, possession of not more than 28.5 grams of cannabis, or not more than eight grams of concentrated cannabis, or both, shall be punished or adjudicated as follows:

(1) Persons under 18 years of age are guilty of an infraction and shall be required to:

(A) Upon a finding that a first offense has been committed, complete four hours of drug education or counseling and up to 10 hours of community service over a period not to exceed 60 days.

(B) Upon a finding that a second offense or subsequent offense has been committed, complete six hours of drug education or counseling and up to 20 hours of community service over a period not to exceed 90 days.

(2) Persons at least 18 years of age but less than 21 years of age are guilty of an infraction and punishable by a fine of not more than one hundred dollars ($100).

(b) Except as authorized by law, possession of more than 28.5 grams of cannabis, or more than eight grams of concentrated cannabis, shall be punished as follows:

(1) Persons under 18 years of age who possess more than 28.5 grams of cannabis or more than eight grams of concentrated cannabis, or both, are guilty of an infraction and shall be required to:
(A) Upon a finding that a first offense has been committed, complete eight hours of drug education or counseling and up to 40 hours of community service over a period not to exceed 90 days.

(B) Upon a finding that a second or subsequent offense has been committed, complete 10 hours of drug education or counseling and up to 60 hours of community service over a period not to exceed 120 days.

(2) Persons 18 years of age or older who possess more than 28.5 grams of cannabis, or more than eight grams of concentrated cannabis, or both, shall be punished by imprisonment in a county jail for a period of not more than six months or by a fine of not more than five hundred dollars ($500), or by both that fine and imprisonment.

c) Except as authorized by law, a person 18 years of age or older who possesses not more than 28.5 grams of cannabis, or not more than eight grams of concentrated cannabis, upon the grounds of, or within, any school providing instruction in kindergarten or any of grades 1 to 12, inclusive, during hours the school is open for classes or school-related programs is guilty of a misdemeanor and shall be punished as follows:

1. A fine of not more than two hundred fifty dollars ($250), upon a finding that a first offense has been committed.

2. A fine of not more than five hundred dollars ($500), or by imprisonment in a county jail for a period of not more than 10 days, or both, upon a finding that a second or subsequent offense has been committed.

d) Except as authorized by law, a person under 18 years of age who possesses not more than 28.5 grams of cannabis, or not more than eight grams of concentrated cannabis, upon the grounds of, or within, any school providing instruction in kindergarten or any of grades 1 to 12, inclusive, during hours the school is open for classes or school-related programs is guilty of an infraction and shall be punished in the same manner provided in paragraph (1) of subdivision (b).

SECTION 11358 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11358.
Each person who plants, cultivates, harvests, dries, or processes cannabis plants, or any part thereof, except as otherwise provided by law, shall be punished as follows:

(a) Each person under the age of 18 who plants, cultivates, harvests, dries, or processes any cannabis plants shall be punished in the same manner provided in paragraph (1) of subdivision (b) of Section 11357.

(b) Each person at least 18 years of age but less than 21 years of age who plants, cultivates, harvests, dries, or processes not more than six living cannabis plants shall be guilty of an infraction and a fine of not more than one hundred dollars ($100).

(c) Each person 18 years of age or over who plants, cultivates, harvests, dries, or processes more than six living cannabis plants shall be punished by imprisonment in a county jail for a period of not more than six months or by a fine of not more than five hundred dollars ($500), or by both that fine and imprisonment.

(d) Notwithstanding subdivision (c), a person 18 years of age or over who plants, cultivates, harvests, dries, or processes more than six living cannabis plants, or any part thereof, except as otherwise provided by law, may be punished by imprisonment pursuant to subdivision (h) of Section 1170 of the Penal Code if any of the following conditions exist:

1. The person has one or more prior convictions for an offense specified in clause (iv) of subparagraph (C) of paragraph (2) of subdivision (e) of Section 667 of the Penal Code or for an offense requiring registration pursuant to subdivision (c) of Section 290 of the Penal Code.

2. The person has two or more prior convictions under subdivision (c).

3. The offense resulted in any of the following:

   (A) Violation of Section 1052 of the Water Code relating to illegal diversion of water.

   (B) Violation of Section 13260, 13264, 13272, or 13387 of the Water Code relating to discharge of water.

September 18, 2017 – This document may not contain the most recent statute language
SECTION 11359 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11359.
Every person who possesses for sale any cannabis, except as otherwise provided by law, shall be punished as follows:
(a) Every person under the age of 18 who possesses cannabis for sale shall be punished in the same manner provided in paragraph (1) of subdivision (b) of Section 11357.
(b) Every person 18 years of age or over who possesses cannabis for sale shall be punished by imprisonment in a county jail for a period of not more than six months or by a fine of not more than five hundred dollars ($500), or by both such fine and imprisonment.
(c) Notwithstanding subdivision (b), a person 18 years of age or over who possesses cannabis for sale may be punished by imprisonment pursuant to subdivision (h) of Section 1170 of the Penal Code if:
   (1) The person has one or more prior convictions for an offense specified in clause (iv) of subparagraph (C) of paragraph (2) of subdivision (e) of Section 667 of the Penal Code or for an offense requiring registration pursuant to subdivision (c) of Section 290 of the Penal Code;
   (2) The person has two or more prior convictions under subdivision (b); or
   (3) The offense occurred in connection with the knowing sale or attempted sale of cannabis to a person under the age of 18 years.
(d) Notwithstanding subdivision (b), a person 21 years of age or over who possesses cannabis for sale may be punished by imprisonment pursuant to subdivision (h) of Section 1170 of the Penal Code if the offense involves knowingly hiring, employing, or using a person 20 years of age or younger in unlawfully cultivating, transporting, carrying, selling, offering to sell, giving away, preparing for sale, or peddling any cannabis.

SECTION 11359 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11360.
(a) Except as otherwise provided by this section or as authorized by law, every person who transports, imports into this state, sells, furnishes, administers, or gives away, or offers to transport, import into this state, sell, furnish, administer, or give away, or attempts to import into this state or transport any cannabis shall be punished as follows:
   (1) Persons under the age of 18 years shall be punished in the same manner as provided in paragraph (1) of subdivision (b) of Section 11357.
   (2) Persons 18 years of age or over shall be punished by imprisonment in a county jail for a period of not more than six months or by a fine of not more than five hundred dollars ($500), or by both such fine and imprisonment.
   (3) Notwithstanding paragraph (2), a person 18 years of age or over may be punished by imprisonment pursuant to subdivision (h) of Section 1170 of the Penal Code for a period of two, three, or four years if:
      (A) The person has one or more prior convictions for an offense specified in clause (iv) of subparagraph (C) of paragraph (2) of subdivision (e) of Section 667 of the Penal Code or
for an offense requiring registration pursuant to subdivision (c) of Section 290 of the Penal Code;

(B) The person has two or more prior convictions under paragraph (2);

(C) The offense involved the knowing sale, attempted sale, or the knowing offer to sell, furnish, administer, or give away cannabis to a person under the age of 18 years; or

(D) The offense involved the import, offer to import, or attempted import into this state, or the transport for sale, offer to transport for sale, or attempted transport for sale out of this state, of more than 28.5 grams of cannabis or more than four grams of concentrated cannabis.

(b) Except as authorized by law, every person who gives away, offers to give away, transports, offers to transport, or attempts to transport not more than 28.5 grams of cannabis, other than concentrated cannabis, is guilty of an infraction and shall be punished by a fine of not more than one hundred dollars ($100). In any case in which a person is arrested for a violation of this subdivision and does not demand to be taken before a magistrate, that person shall be released by the arresting officer upon presentation of satisfactory evidence of identity and giving his or her written promise to appear in court, as provided in Section 853.6 of the Penal Code, and shall not be subjected to booking.

(c) For purposes of this section, "transport" means to transport for sale.

(d) This section does not preclude or limit prosecution for any aiding and abetting or conspiracy offenses.

SECTION 11361 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11361.

(a) A person 18 years of age or over who hires, employs, or uses a minor in unlawfully transporting, carrying, selling, giving away, preparing for sale, or peddling any cannabis, who unlawfully sells, or offers to sell, any cannabis to a minor, or who furnishes, administers, or gives, or offers to furnish, administer, or give any cannabis to a minor under 14 years of age, or who induces a minor to use cannabis in violation of law shall be punished by imprisonment in the state prison for a period of three, five, or seven years.

(b) A person 18 years of age or over who furnishes, administers, or gives, or offers to furnish, administer, or give, any cannabis to a minor 14 years of age or older in violation of law shall be punished by imprisonment in the state prison for a period of three, four, or five years.

SECTION 11361.1 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11361.1.

(a) The drug education and counseling requirements under Sections 11357, 11358, 11359, and 11360 shall be:

(1) Mandatory, unless the court finds that such drug education or counseling is unnecessary for the person, or that a drug education or counseling program is unavailable;

(2) Free to participants, and shall consist of at least four hours of group discussion or instruction based on science and evidence-based principles and practices specific to the use and abuse of cannabis and other controlled substances.

(b) For good cause, the court may grant an extension of time not to exceed 30 days for a person to complete the drug education and counseling required under Sections 11357, 11358, 11359, and 11360.

SECTION 11361.5 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11361.5.

(a) Records of any court of this state, any public or private agency that provides services upon referral under Section 1000.2 of the Penal Code, or of any state agency pertaining to the arrest or conviction of any person for a violation of Section 11357 or subdivision (b) of Section 11360, or pertaining to the arrest or conviction of any person under the age of 18 for a violation of any provision of this article except Section 11357.5, shall not be kept beyond two years from the date of the conviction, or from
the date of the arrest if there was no conviction, except with respect to a violation of subdivision (d) of Section 11357, or any other violation by a person under the age of 18 occurring upon the grounds of, or within, any school providing instruction in kindergarten or any of grades 1 to 12, inclusive, during hours the school is open for classes or school-related programs, the records shall be retained until the offender attains the age of 18 years at which time the records shall be destroyed as provided in this section. Any court or agency having custody of the records, including the statewide criminal databases, shall provide for the timely destruction of the records in accordance with subdivision (c), and those records shall also be purged from the statewide criminal databases. As used in this subdivision, “records pertaining to the arrest or conviction” shall include records of arrests resulting in the criminal proceeding and records relating to other offenses charged in the accusatory pleading, whether the defendant was acquitted or charges were dismissed. The two-year period beyond which records shall not be kept pursuant to this subdivision shall not apply to any person who is, at the time at which this subdivision would otherwise require record destruction, incarcerated for an offense subject to this subdivision. For such persons, the two-year period shall commence from the date the person is released from custody. The requirements of this subdivision do not apply to records of any conviction occurring prior to January 1, 1976, or records of any arrest not followed by a conviction occurring prior to that date, or records of any arrest for an offense specified in subdivision (c) of Section 1192.7, or subdivision (c) of Section 667.5 of the Penal Code.

(b) This subdivision applies only to records of convictions and arrests not followed by conviction occurring prior to January 1, 1976, for any of the following offenses:

(1) Any violation of Section 11357 or a statutory predecessor thereof.
(2) Unlawful possession of a device, contrivance, instrument, or paraphernalia used for unlawfully smoking cannabis, in violation of Section 11364, as it existed prior to January 1, 1976, or a statutory predecessor thereof.
(3) Unlawful visitation or presence in a room or place in which cannabis is being unlawfully smoked or used, in violation of Section 11365, as it existed prior to January 1, 1976, or a statutory predecessor thereof.
(4) Unlawfully using or being under the influence of cannabis, in violation of Section 11550, as it existed prior to January 1, 1976, or a statutory predecessor thereof.

Any person subject to an arrest or conviction for those offenses may apply to the Department of Justice for destruction of records pertaining to the arrest or conviction if two or more years have elapsed since the date of the conviction, or since the date of the arrest if not followed by a conviction. The application shall be submitted upon a form supplied by the Department of Justice and shall be accompanied by a fee, which shall be established by the department in an amount which will defray the cost of administering this subdivision and costs incurred by the state under subdivision (c), but which shall not exceed thirty-seven dollars and fifty cents ($37.50). The application form may be made available at every local police or sheriff's department and from the Department of Justice and may require that information which the department determines is necessary for purposes of identification.

The department may request, but not require, the applicant to include a self-administered fingerprint upon the application. If the department is unable to sufficiently identify the applicant for purposes of this subdivision without the fingerprint or without additional fingerprints, it shall so notify the applicant and shall request the applicant to submit any fingerprints which may be required to effect identification, including a complete set if necessary, or, alternatively, to abandon the application and request a refund of all or a portion of the fee submitted with the application, as provided in this section. If the applicant fails or refuses to submit fingerprints in accordance with the department's request within a reasonable time which shall be established by the department, or if the applicant requests a refund of the fee, the department shall promptly mail a refund to the applicant at the address specified in the application or at any other address which may be specified by the applicant. However, if the department has notified the applicant that election to abandon the application will result in forfeiture of a specified amount which is a portion of the fee, the department may retain a portion of the fee which the department
comprehensive Medicinal and Adult-Use Cannabis Regulation and Safety Act Senate Bill 94, Proposition 64, and Assembly Bill 133

September 18, 2017 – This document may not contain the most recent statute language

Page | 72

Appendix H

11361.8

(a) A person currently serving a sentence for a conviction, whether by trial or by open or negotiated plea, who would not have been guilty of an offense or who would have been guilty of a lesser offense under the Control, Regulate and Tax Adult Use of Marijuana Act had that Act been in effect at the time of the offense may petition for a recall or dismissal of sentence before the trial court that entered the judgment of conviction in his or her case to request resentencing or dismissal in accordance with Sections 11357, 11358, 11359, 11360, 11362.1, 11362.2, 11362.3, and 11362.4 as those sections have been amended or added by this Act.

(b) Upon receiving a petition under subdivision (a), the court shall presume the petitioner satisfies the criteria in subdivision (a) unless the party opposing the petition proves by clear and convincing evidence that the petitioner does not satisfy the criteria. If the petitioner satisfies the criteria in subdivision (a), the court shall grant the petition to recall the sentence or dismiss the sentence because it is legally invalid unless the court determines that granting the petition would pose an unreasonable risk of danger to public safety.

(1) In exercising its discretion, the court may consider, but shall not be limited to evidence provided for in subdivision (b) of Section 1170.18 of the Penal Code.

(2) As used in this section, “unreasonable risk of danger to public safety” has the same meaning as provided in subdivision (c) of Section 1170.18 of the Penal Code.

(c) A person who is serving a sentence and resentenced pursuant to subdivision (b) shall be given credit for any time already served and shall be subject to supervision for one year following completion of his or her time in custody or shall be subject to whatever supervision time he or she would have otherwise been subject to after release, whichever is shorter, unless the court, in its discretion, as part of its resentencing order, releases the person from supervision. Such person is subject to parole supervision under Penal Code Section 3000.08 or post-release community supervision under subdivision (a) of Section 3451 of the Penal Code by the designated agency and the jurisdiction of the court in the county in which the offender is released or resides, or in which an alleged violation of supervision has occurred, for the purpose of hearing petitions to revoke supervision and impose a term of custody.
(d) Under no circumstances may resentencing under this section result in the imposition of a term longer than the original sentence, or the reinstatement of charges dismissed pursuant to a negotiated plea agreement.

(e) A person who has completed his or her sentence for a conviction under Sections 11357, 11358, 11359, and 11360, whether by trial or open or negotiated plea, who would not have been guilty of an offense or who would have been guilty of a lesser offense under the Control, Regulate and Tax Adult Use of Marijuana Act had that Act been in effect at the time of the offense, may file an application before the trial court that entered the judgment of conviction in his or her case to have the conviction dismissed and sealed because the prior conviction is now legally invalid or redesignated as a misdemeanor or refraction in accordance with Sections 11357, 11358, 11359, 11360, 11362.1, 11362.2, 11362.3, and 11362.4 as those sections have been amended or added by this Act.

(f) The court shall presume the petitioner satisfies the criteria in subdivision (e) unless the party opposing the application proves by clear and convincing evidence that the petitioner does not satisfy the criteria in subdivision (e). Once the applicant satisfies the criteria in subdivision (e), the court shall redesignate the conviction as a misdemeanor or infraction or dismiss and seal the conviction as legally invalid as now established under the Control, Regulate and Tax Adult Use of Marijuana Act.

(g) Unless requested by the applicant, no hearing is necessary to grant or deny an application filed under subdivision (e).

(h) Any felony conviction that is recalled and resentenced under subdivision (b) or designated as a misdemeanor or refraction under subdivision (f) shall be considered a misdemeanor or infraction for all purposes. Any misdemeanor conviction that is recalled and resentenced under subdivision (b) or designated as an infraction under subdivision (f) shall be considered an infraction for all purposes.

(i) If the court that originally sentenced the petitioner is not available, the presiding judge shall designate another judge to rule on the petition or application.

(j) Nothing in this section is intended to diminish or abrogate any rights or remedies otherwise available to the petitioner or applicant.

(k) Nothing in this and related sections is intended to diminish or abrogate the finality of judgments in any case not falling within the purview of the Control, Regulate and Tax Adult Use of Marijuana Act.

(l) A resentencing hearing ordered under this act shall constitute a “post-conviction release proceeding” under paragraph (7) of subdivision (b) of Section 28 of Article I of the California Constitution (Marsy’s Law).

(m) The provisions of this section shall apply equally to juvenile delinquency adjudications and dispositions under Section 602 of the Welfare and Institutions Code if the juvenile would not have been guilty of an offense or would have been guilty of a lesser offense under the Control, Regulate and Tax Adult Use of Marijuana Act.

(n) The Judicial Council shall promulgate and make available all necessary forms to enable the filing of the petitions and applications provided in this section.

SECTION 11362.1 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11362.1.

(a) Subject to Sections 11362.2, 11362.3, 11362.4, and 11362.45, but notwithstanding any other provision of law, it shall be lawful under state and local law, and shall not be a violation of state or local law, for persons 21 years of age or older to:

1. Possess, process, transport, purchase, obtain, or give away to persons 21 years of age or older without any compensation whatsoever, not more than 28.5 grams of cannabis not in the form of concentrated cannabis;

2. Possess, process, transport, purchase, obtain, or give away to persons 21 years of age or older without any compensation whatsoever, not more than eight grams of cannabis in the form of concentrated cannabis, including as contained in cannabis products;

3. Possess, plant, cultivate, harvest, dry, or process not more than six living cannabis plants and possess the cannabis produced by the plants;

4. Smoke or ingest cannabis or cannabis products; and
(5) Possess, transport, purchase, obtain, use, manufacture, or give away cannabis accessories to persons 21 years of age or older without any compensation whatsoever.

(b) Paragraph (5) of subdivision (a) is intended to meet the requirements of subsection (f) of Section 863 of Title 21 of the United States Code (21 U.S.C. Sec. 863(f)) by authorizing, under state law, any person in compliance with this section to manufacture, possess, or distribute cannabis accessories.

(c) Cannabis and cannabis products involved in any way with conduct deemed lawful by this section are not contraband nor subject to seizure, and no conduct deemed lawful by this section shall constitute the basis for detention, search, or arrest.

SECTION 11362.2 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11362.2.
(a) Personal cultivation of cannabis under paragraph (3) of subdivision (a) of Section 11362.1 is subject to the following restrictions:

(1) A person shall plant, cultivate, harvest, dry, or process plants in accordance with local ordinances, if any, adopted in accordance with subdivision (b).

(2) The living plants and any cannabis produced by the plants in excess of 28.5 grams are kept within the person's private residence, or upon the grounds of that private residence (e.g., in an outdoor garden area), are in a locked space, and are not visible by normal unaided vision from a public place.

(3) Not more than six living plants may be planted, cultivated, harvested, dried, or processed within a single private residence, or upon the grounds of that private residence, at one time.

(b) (1) A city, county, or city and county may enact and enforce reasonable regulations to regulate the actions and conduct in paragraph (3) of subdivision (a) of Section 11362.1.

(2) Notwithstanding paragraph (1), a city, county, or city and county shall not completely prohibit persons engaging in the actions and conduct under paragraph (3) of subdivision (a) of Section 11362.1 inside a private residence, or inside an accessory structure to a private residence located upon the grounds of a private residence that is fully enclosed and secure.

(3) Notwithstanding paragraph (3) of subdivision (a) of Section 11362.1, a city, county, or city and county may completely prohibit persons from engaging in actions and conduct under paragraph (3) of subdivision (a) of Section 11362.1 outdoors upon the grounds of a private residence.

(4) Paragraph (3) shall become inoperative upon a determination by the California Attorney General that adult use of cannabis is lawful in the State of California under federal law, and an act taken by a city, county, or city and county under paragraph (3) is unenforceable upon the date of that determination by the Attorney General.

(5) For purposes of this section, "private residence" means a house, an apartment unit, a mobile home, or other similar dwelling.

SECTION 11362.3 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11362.3.
(a) Section 11362.1 does not permit any person to:

(1) Smoke or ingest cannabis or cannabis products in a public place, except in accordance with Section 26200 of the Business and Professions Code.

(2) Smoke cannabis or cannabis products in a location where smoking tobacco is prohibited.

(3) Smoke cannabis or cannabis products within 1,000 feet of a school, day care center, or youth center while children are present at the school, day care center, or youth center, except in or upon the grounds of a private residence or in accordance with Section 26200 of the Business and Professions Code and only if such smoking is not detectable by others on the grounds of the school, day care center, or youth center while children are present.

(4) Possess an open container or open package of cannabis or cannabis products while driving, operating, or riding in the passenger seat or compartment of a motor vehicle, boat, vessel, aircraft, or other vehicle used for transportation.

September 18, 2017 – This document may not contain the most recent statute language
Page | 74
Comprehensive
Medicinal and Adult-Use Cannabis Regulation and Safety Act
Senate Bill 94, Proposition 64, and Assembly Bill 133

(5) Possess, smoke, or ingest cannabis or cannabis products in or upon the grounds of a school, day care center, or youth center while children are present.

(6) Manufacture concentrated cannabis using a volatile solvent, unless done in accordance with a license under Division 10 (commencing with Section 26000) of the Business and Professions Code.

(7) Smoke or ingest cannabis or cannabis products while driving, operating a motor vehicle, boat, vessel, aircraft, or other vehicle used for transportation.

(8) Smoke or ingest cannabis or cannabis products while riding in the passenger seat or compartment of a motor vehicle, boat, vessel, aircraft, or other vehicle used for transportation except as permitted on a motor vehicle, boat, vessel, aircraft, or other vehicle used for transportation that is operated in accordance with Section 26200 of the Business and Professions Code and while no persons under 21 years of age are present.

(b) For purposes of this section, the following definitions apply:

(1) “Day care center” has the same meaning as in Section 1596.76.

(2) “Smoke” means to inhale, exhale, burn, or carry any lighted or heated device or pipe, or any other lighted or heated cannabis or cannabis product intended for inhalation, whether natural or synthetic, in any manner or in any form. “Smoke” includes the use of an electronic smoking device that creates an aerosol or vapor, in any manner or in any form, or the use of any oral smoking device for the purpose of circumventing the prohibition of smoking in a place.

(3) “Volatile solvent” means a solvent that is or produces a flammable gas or vapor that, when present in the air in sufficient quantities, will create explosive or ignitable mixtures.

(4) “Youth center” has the same meaning as in Section 11353.1.

(c) Nothing in this section shall be construed or interpreted to amend, repeal, affect, restrict, or preempt laws pertaining to the Compassionate Use Act of 1996.

SECTION 11362.4 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11362.4.

(a) A person who engages in the conduct described in paragraph (1) of subdivision (a) of Section 11362.3 is guilty of an infraction punishable by no more than a one-hundred-dollar ($100) fine; provided, however, that persons under the age of 18 shall instead be required to complete four hours of a drug education program or counseling, and up to 10 hours of community service, over a period not to exceed 60 days once the drug education program or counseling and community service opportunity are made available to the person.

(b) A person who engages in the conduct described in paragraphs (2), (3), or (4) of subdivision (a) of Section 11362.3 is guilty of an infraction punishable by no more than a two-hundred-fifty-dollar ($250) fine, unless such activity is otherwise permitted by state and local law; provided, however, that persons under the age of 18 shall instead be required to complete four hours of drug education or counseling, and up to 20 hours of community service, over a period not to exceed 90 days once the drug education program or counseling and community service opportunity are made available to the person.

(c) A person who engages in the conduct described in paragraph (5) of subdivision (a) of Section 11362.3 shall be subject to the same punishment as provided under subdivision (c) or (d) of Section 11357.

(d) A person who engages in the conduct described in paragraph (6) of subdivision (a) of Section 11362.3 shall be subject to punishment under Section 11379.6.

(e) A person who violates the restrictions in subdivision (a) of Section 11362.2 is guilty of an infraction punishable by no more than a two-hundred-fifty-dollar ($250) fine.

(f) Notwithstanding subdivision (e), a person under the age of 18 who violates the restrictions in subdivision (a) of Section 11362.2 shall be punished under subdivision (a) of Section 11358.

(g) (1) The drug education program or counseling hours required by this section shall be mandatory unless the court makes a finding that such a program or counseling is unnecessary for the person or that a drug education program or counseling is unavailable.

September 18, 2017 – This document may not contain the most recent statute language
Page | 75
(2) The drug education program required by this section for persons under the age of 18 shall be free to participants and provide at least four hours of group discussion or instruction based on science and evidence-based principles and practices specific to the use and abuse of cannabis and other controlled substances.

(h) Upon a finding of good cause, the court may extend the time for a person to complete the drug education or counseling, and community service required under this section.

SECTION 11362.45 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11362.45.
Section 11362.1 does not amend, repeal, affect, restrict, or preempt:
(a) Laws making it unlawful to drive or operate a vehicle, boat, vessel, or aircraft, while smoking, ingesting, or impaired by, cannabis or cannabis products, including, but not limited to, subdivision (e) of Section 23152 of the Vehicle Code, or the penalties prescribed for violating those laws.
(b) Laws prohibiting the sale, administering, furnishing, or giving away of cannabis, cannabis products, or cannabis accessories, or the offering to sell, administer, furnish, or give away cannabis, cannabis products, or cannabis accessories to a person younger than 21 years of age.
(c) Laws prohibiting a person younger than 21 years of age from engaging in any of the actions or conduct otherwise permitted under Section 11362.1.
(d) Laws pertaining to smoking or ingesting cannabis or cannabis products on the grounds of, or within, any facility or institution under the jurisdiction of the Department of Corrections and Rehabilitation or the Division of Juvenile Justice, or on the grounds of, or within, any other facility or institution referenced in Section 4573 of the Penal Code.
(e) Laws providing that it would constitute negligence or professional malpractice to undertake any task while impaired from smoking or ingesting cannabis or cannabis products.
(f) The rights and obligations of public and private employers to maintain a drug and alcohol free workplace or require an employer to permit or accommodate the use, consumption, possession, transfer, display, transportation, sale, or growth of cannabis in the workplace, or affect the ability of employers to have policies prohibiting the use of cannabis by employees and prospective employees, or prevent employers from complying with state or federal law.
(g) The ability of a state or local government agency to prohibit or restrict any of the actions or conduct otherwise permitted under Section 11362.1 within a building owned, leased, or occupied by the state or local government agency.
(h) The ability of an individual or private entity to prohibit or restrict any of the actions or conduct otherwise permitted under Section 11362.1 on the individual’s or entity’s privately owned property.
(i) Laws pertaining to the Compassionate Use Act of 1996.

SECTION 11362.7 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11362.7.
For purposes of this article, the following definitions shall apply:
(a) “Attending physician” means an individual who possesses a license in good standing to practice medicine or osteopathy issued by the Medical Board of California or the Osteopathic Medical Board of California and who has taken responsibility for an aspect of the medical care, treatment, diagnosis, counseling, or referral of a patient and who has conducted a medical examination of that patient before recording in the patient’s medical record the physician’s assessment of whether the patient has a serious medical condition and whether the medical use of cannabis is appropriate.
(b) “Department” means the State Department of Public Health.
(c) “Person with an identification card” means an individual who is a qualified patient who has applied for and received a valid identification card pursuant to this article.
(d) “Primary caregiver” means the individual, designated by a qualified patient, who has consistently assumed responsibility for the housing, health, or safety of that patient, and may include any of the following:
Comprehensive
Medicinal and Adult-Use Cannabis Regulation and Safety Act
Senate Bill 94, Proposition 64, and Assembly Bill 133

September 18, 2017 – This document may not contain the most recent statute language
SECTION 11362.71 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11362.71.
(a) (1) The department shall establish and maintain a voluntary program for the issuance of identification cards to qualified patients who satisfy the requirements of this article and voluntarily apply to the identification card program.

   (2) The department shall establish and maintain a 24-hour, toll-free telephone number that will enable state and local law enforcement officers to have immediate access to information necessary to verify the validity of an identification card issued by the department, until a cost-effective Internet Web-based system can be developed for this purpose.

(b) Every county health department, or the county's designee, shall do all of the following:

   (1) Provide applications upon request to individuals seeking to join the identification card program.

   (2) Receive and process completed applications in accordance with Section 11362.72.

   (3) Maintain records of identification card programs.

   (4) Utilize protocols developed by the department pursuant to paragraph (1) of subdivision (d).

   (5) Issue identification cards developed by the department to approved applicants and designated primary caregivers.

(c) The county board of supervisors may designate another health-related governmental or nongovernmental entity or organization to perform the functions described in subdivision (b), except for an entity or organization that cultivates or distributes cannabis.

(d) The department shall develop all of the following:

   (1) Protocols that shall be used by a county health department or the county's designee to implement the responsibilities described in subdivision (b), including, but not limited to, protocols to confirm the accuracy of information contained in an application and to protect the confidentiality of program records.

   (2) Application forms that shall be issued to requesting applicants.

   (3) An identification card that identifies a person authorized to engage in the medical use of cannabis and an identification card that identifies the person's designated primary caregiver, if any. The two identification cards developed pursuant to this paragraph shall be easily distinguishable from each other.

(e) No person or designated primary caregiver in possession of a valid identification card shall be subject to arrest for possession, transportation, delivery, or cultivation of medicinal cannabis in an amount established pursuant to this article, unless there is probable cause to believe that the information contained in the card is false or falsified, the card has been obtained by means of fraud, or the person is otherwise in violation of the provisions of this article.

(f) It shall not be necessary for a person to obtain an identification card in order to claim the protections of Section 11362.5.

11362.712.
(a) Commencing on January 1, 2018, a qualified patient must possess a physician's recommendation that complies with Article 25 (commencing with Section 2525) of Chapter 5 of Division 2 of the Business and Professions Code. Failure to comply with this requirement shall not, however, affect any of the protections provided to patients or their primary caregivers by Section 11362.5.

(b) A county health department or the county's designee shall develop protocols to ensure that, commencing upon January 1, 2018, all identification cards issued pursuant to Section 11362.71 are supported by a physician's recommendation that complies with Article 25 (commencing with Section 2525) of Chapter 5 of Division 2 of the Business and Professions Code.

11362.713.
(a) Information identifying the names, addresses, or social security numbers of patients, their medical conditions, or the names of their primary caregivers, received and contained in the records of the Department of Public Health and by any county public health department are hereby deemed "medical information" within the meaning of the Confidentiality of Medical Information Act (Part 2.6 (commencing with Section 56) Division 1 of the Civil Code) and shall not be disclosed by the
Department or by any county public health department except in accordance with the restrictions on disclosure of individually identifiable information under the Confidentiality of Medical Information Act.

(b) Within 24 hours of receiving any request to disclose the name, address, or social security number of a patient, their medical condition, or the name of their primary caregiver, the Department of Public Health or any county public health agency shall contact the patient and inform the patient of the request and if the request was made in writing, a copy of the request.

(c) Notwithstanding Section 56.10 of the Civil Code, neither the Department of Public Health, nor any county public health agency, shall disclose, nor shall they be ordered by agency or court to disclose, the names, addresses, or social security numbers of patients, their medical conditions, or the names of their primary caregivers, sooner than the 10th day after which the patient whose records are sought to be disclosed has been contacted.

(d) No identification card application system or database used or maintained by the Department of Public Health or by any county department of public health or the county’s designee as provided in Section 11362.71 shall contain any personal information of any qualified patient, including but not limited to, the patient’s name, address, social security number, medical conditions, or the names of their primary caregivers. Such an application system or database may only contain a unique user identification number, and when that number is entered, the only information that may be provided is whether the card is valid or invalid.

SECTION 11362.715 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11362.715.
(a) A person who seeks an identification card shall pay the fee, as provided in Section 11362.755, and provide all of the following to the county health department or the county’s designee on a form developed and provided by the department:
   (1) The name of the person and proof of his or her residency within the county.
   (2) Written documentation by the attending physician in the person’s medical records stating that the person has been diagnosed with a serious medical condition and that the medicinal use of cannabis is appropriate.
   (3) The name, office address, office telephone number, and California medical license number of the person’s attending physician.
   (4) The name and the duties of the primary caregiver.
   (5) A government-issued photo identification card of the person and of the designated primary caregiver, if any. If the applicant is a person under 18 years of age, a certified copy of a birth certificate shall be deemed sufficient proof of identity.

(b) If the person applying for an identification card lacks the capacity to make medical decisions, the application may be made by the person’s legal representative, including, but not limited to, any of the following:
   (1) A conservator with authority to make medical decisions.
   (2) An attorney-in-fact under a durable power of attorney for health care or surrogate decision maker authorized under another advanced health care directive.
   (3) Any other individual authorized by statutory or decisional law to make medical decisions for the person.

(c) The legal representative described in subdivision (b) may also designate in the application an individual, including himself or herself, to serve as a primary caregiver for the person, provided that the individual meets the definition of a primary caregiver.

(d) The person or legal representative submitting the written information and documentation described in subdivision (a) shall retain a copy thereof.

11362.755
(a) Each county health department or the county’s designee may charge a fee for all costs incurred by the county or the county’s designee for administering the program pursuant to this article.

(b) In no event shall the amount of the fee charged by a county health department exceed one hundred dollars ($100) per application or renewal.
(c) Upon satisfactory proof of participation and eligibility in the Medi-Cal program, a Medi-Cal beneficiary shall receive a 50 percent reduction in the fees established pursuant to this section.

(d) Upon satisfactory proof that a qualified patient, or the legal guardian of a qualified patient under the age of 18, is a medically indigent adult who is eligible for and participates in the County Medical Services Program, the fee established pursuant to this section shall be waived.

(e) In the event the fees charged and collected by a county health department are not sufficient to pay for the administrative costs incurred in discharging the county health department’s duties with respect to the mandatory identification card system, the Legislature, upon request by the county health department, shall reimburse the county health department for those reasonable administrative costs in excess of the fees charged and collected by the county health department.

SECTION 11362.765 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11362.765.

(a) Subject to the requirements of this article, the individuals specified in subdivision (b) shall not be subject, on that sole basis, to criminal liability under Section 11357, 11358, 11359, 11360, 11366, 11366.5, or 11570. This section does not authorize the individual to smoke or otherwise consume cannabis unless otherwise authorized by this article, nor shall anything in this section authorize any individual or group to cultivate or distribute cannabis for profit.

(b) Subdivision (a) shall apply to all of the following:

(1) A qualified patient or a person with an identification card who transports or processes cannabis for his or her own personal medical use.

(2) A designated primary caregiver who transports, processes, administers, delivers, or gives away cannabis for medical purposes, in amounts not exceeding those established in subdivision (a) of Section 11362.77, only to the qualified patient of the primary caregiver, or to the person with an identification card who has designated the individual as a primary caregiver.

(3) An individual who provides assistance to a qualified patient or a person with an identification card, or his or her designated primary caregiver, in administering medicinal cannabis to the qualified patient or person or acquiring the skills necessary to cultivate or administer cannabis for medical purposes to the qualified patient or person.

(c) A primary caregiver who receives compensation for actual expenses, including reasonable compensation incurred for services provided to an eligible qualified patient or person with an identification card to enable that person to use cannabis under this article, or for payment for out-of-pocket expenses incurred in providing those services, or both, shall not, on the sole basis of that fact, be subject to prosecution or punishment under Section 11359 or 11360.

SECTION 11362.768 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11362.768.

(a) This section shall apply to individuals specified in subdivision (b) of Section 11362.765.

(b) No medicinal cannabis cooperative, collective, dispensary, operator, establishment, or provider who possesses, cultivates, or distributes medicinal cannabis pursuant to this article shall be located within a 600-foot radius of a school.

(c) The distance specified in this section shall be the horizontal distance measured in a straight line from the property line of the school to the closest property line of the lot on which the medicinal cannabis cooperative, collective, dispensary, operator, establishment, or provider is to be located without regard to intervening structures.

(d) This section shall not apply to a medicinal cannabis cooperative, collective, dispensary, operator, establishment, or provider that is also a licensed residential medical or elder care facility.

(e) This section shall apply only to a medicinal cannabis cooperative, collective, dispensary, operator, establishment, or provider that is authorized by law to possess, cultivate, or distribute medicinal cannabis and that has a storefront or mobile retail outlet which ordinarily requires a local business license.
Comprehensive Medicinal and Adult-Use Cannabis Regulation and Safety Act
Senate Bill 94, Proposition 64, and Assembly Bill 133

September 18, 2017 – This document may not contain the most recent statute language
Page | 81

(f) Nothing in this section shall prohibit a city, county, or city and county from adopting ordinances or policies that further restrict the location or establishment of a medicinal cannabis cooperative, collective, dispensary, operator, establishment, or provider.

(g) This section does not preempt local ordinances, adopted prior to January 1, 2011, that regulate the location or establishment of a medicinal cannabis cooperative, collective, dispensary, operator, establishment, or provider.

(h) For the purposes of this section, “school” means any public or private school providing instruction in kindergarten or any of grades 1 to 12, inclusive, but does not include any private school in which education is primarily conducted in private homes.

SECTION 11362.77 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11362.77.
(a) A qualified patient or primary caregiver may possess no more than eight ounces of dried cannabis per qualified patient. In addition, a qualified patient or primary caregiver may also maintain no more than six mature or 12 immature cannabis plants per qualified patient.

(b) If a qualified patient or primary caregiver has a physician’s recommendation that this quantity does not meet the qualified patient’s medical needs, the qualified patient or primary caregiver may possess an amount of cannabis consistent with the patient’s needs.

(c) Counties and cities may retain or enact medicinal cannabis guidelines allowing qualified patients or primary caregivers to exceed the state limits set forth in subdivision (a).

(d) Only the dried mature processed flowers of female cannabis plant or the plant conversion shall be considered when determining allowable quantities of cannabis under this section.

(e) A qualified patient or a person holding a valid identification card, or the designated primary caregiver of that qualified patient or person, may possess amounts of cannabis consistent with this article.

SECTION 11362.775 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11362.775.
(a) Subject to subdivision (d), qualified patients, persons with valid identification cards, and the designated primary caregivers of qualified patients and persons with identification cards, who associate within the State of California in order collectively or cooperatively to cultivate cannabis for medicinal purposes, shall not solely on the basis of that fact be subject to state criminal sanctions under Section 11357, 11358, 11359, 11360, 11366, 11366.5, or 11570.

(b) A collective or cooperative that operates pursuant to this section and manufactures medicinal cannabis products shall not, solely on the basis of that fact, be subject to state criminal sanctions under Section 11379.6 if the collective or cooperative abides by all of the following requirements:
   (1) The collective or cooperative does either or both of the following:
      (A) Utilizes only manufacturing processes that are either solventless or that employ only nonflammable, nontoxic solvents that are generally recognized as safe pursuant to the federal Food, Drug, and Cosmetic Act (21 U.S.C. Sec. 301 et seq.).
      (B) Utilizes only manufacturing processes that use solvents exclusively within a closed-loop system that meets all of the following requirements:
         (i) The system uses only solvents that are generally recognized as safe pursuant to the federal Food, Drug, and Cosmetic Act (21 U.S.C. Sec. 301 et seq.).
         (ii) The system is designed to recapture and contain solvents during the manufacturing process, and otherwise prevent the off-gassing of solvents into the ambient atmosphere to mitigate the risks of ignition and explosion during the manufacturing process.
         (iii) A licensed engineer certifies that the system was commercially manufactured, safe for its intended use, and built to codes of recognized and generally accepted good engineering practices, including, but not limited to, the American Society of Mechanical Engineers (ASME), the American National Standards Institute (ANSI),
Appendix H

Comprehensive
Medicinal and Adult-Use Cannabis Regulation and Safety Act
Senate Bill 94, Proposition 64, and Assembly Bill 133

Underwriters Laboratories (UL), the American Society for Testing and Materials (ASTM), or OSHA Nationally Recognized Testing Laboratories (NRTLs).

(iv) The system has a certification document that contains the signature and stamp of a professional engineer and the serial number of the extraction unit being certified.

(2) The collective or cooperative receives and maintains approval from the local fire official for the closed-loop system, other equipment, the extraction operation, and the facility.

(3) The collective or cooperative meets required fire, safety, and building code requirements in one or more of the following:
   (A) The California Fire Code.
   (B) The National Fire Protection Association (NFPA) standards.
   (C) International Building Code (IBC).
   (D) The International Fire Code (IFC).
   (E) Other applicable standards, including complying with all applicable fire, safety, and building codes in processing, handling, and storage of solvents or gasses.

(4) The collective or cooperative is in possession of a valid seller’s permit issued by the State Board of Equalization.

(5) The collective or cooperative is in possession of a valid local license, permit, or other authorization specific to the manufacturing of medicinal cannabis products, and in compliance with any additional conditions imposed by the city or county issuing the local license, permit, or other authorization.

(c) For purposes of this section, “manufacturing” means compounding, converting, producing, deriving, processing, or preparing, either directly or indirectly by chemical extraction or independently by means of chemical synthesis, medicinal cannabis products.

(d) This section shall remain in effect only until one year after the Bureau of Cannabis Control posts a notice on its Internet Web site that the licensing authorities have commenced issuing licenses pursuant to the Medicinal and Adult-Use Cannabis Regulation and Safety Act (Division 10 (commencing with Section 26000) of the Business and Professions Code).

(e) This section is repealed one year after the date upon which the notice is posted pursuant to subdivision (d).

Section 11362.777 of the Health and Safety Code is repealed.

SECTION 11362.78 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11362.78.
A state or local law enforcement agency or officer shall not refuse to accept an identification card issued pursuant to this article unless the state or local law enforcement agency or officer has probable cause to believe that the information contained in the card is false or fraudulent, or the card is being used fraudulently.

SECTION 11362.785 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11362.785.
(a) Nothing in this article shall require any accommodation of medicinal use of cannabis on the property or premises of a place of employment or during the hours of employment or on the property or premises of a jail, correctional facility, or other type of penal institution in which prisoners reside or persons under arrest are detained.

(b) Notwithstanding subdivision (a), a person shall not be prohibited or prevented from obtaining and submitting the written information and documentation necessary to apply for an identification card on the basis that the person is incarcerated in a jail, correctional facility, or other penal institution in which prisoners reside or persons under arrest are detained.

(c) This article does not prohibit a jail, correctional facility, or other penal institution in which prisoners reside or persons under arrest are detained, from permitting a prisoner or a person under arrest who
has an identification card, to use cannabis for medicinal purposes under circumstances that will not endanger the health or safety of other prisoners or the security of the facility.
(d) This article does not require a governmental, private, or any other health insurance provider or health care service plan to be liable for a claim for reimbursement for the medicinal use of cannabis.

SECTION 11362.79 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11362.79.
This article does not authorize a qualified patient or person with an identification card to engage in the smoking of medicinal cannabis under any of the following circumstances:
(a) In a place where smoking is prohibited by law.
(b) In or within 1,000 feet of the grounds of a school, recreation center, or youth center, unless the medicinal use occurs within a residence.
(c) On a schoolbus.
(d) While in a motor vehicle that is being operated.
(e) While operating a boat.

SECTION 11362.795 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11362.795.
(a) (1) Any criminal defendant who is eligible to use cannabis pursuant to Section 11362.5 may request that the court confirm that he or she is allowed to use medicinal cannabis while he or she is on probation or released on bail.
(2) The court’s decision and the reasons for the decision shall be stated on the record and an entry stating those reasons shall be made in the minutes of the court.
(3) During the period of probation or release on bail, if a physician recommends that the probationer or defendant use medicinal cannabis, the probationer or defendant may request a modification of the conditions of probation or bail to authorize the use of medicinal cannabis.
(4) The court’s consideration of the modification request authorized by this subdivision shall comply with the requirements of this section.
(b) (1) Any person who is to be released on parole from a jail, state prison, school, road camp, or other state or local institution of confinement and who is eligible to use medicinal cannabis pursuant to Section 11362.5 may request that he or she be allowed to use medicinal cannabis during the period he or she is released on parole. A parolee’s written conditions of parole shall reflect whether or not a request for a modification of the conditions of his or her parole to use medicinal cannabis was made, and whether the request was granted or denied.
(2) During the period of the parole, where a physician recommends that the parolee use medicinal cannabis, the parolee may request a modification of the conditions of the parole to authorize the use of medicinal cannabis.
(3) Any parolee whose request to use medicinal cannabis while on parole was denied may pursue an administrative appeal of the decision. Any decision on the appeal shall be in writing and shall reflect the reasons for the decision.
(4) The administrative consideration of the modification request authorized by this subdivision shall comply with the requirements of this section.

SECTION 11362.8 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11362.8.
A professional licensing board shall not impose a civil penalty or take other disciplinary action against a licensee based solely on the fact that the licensee has performed acts that are necessary or appropriate to carry out the licensee’s role as a designated primary caregiver to a person who is a qualified patient or who possesses a lawful identification card issued pursuant to Section 11362.72. However, this section shall not apply to acts performed by a physician relating to the discussion or recommendation of the use of medicinal cannabis.

September 18, 2017 – This document may not contain the most recent statute language
medical use of cannabis to a patient. These discussions or recommendations, or both, shall be governed by Section 11362.5.

SECTION 11362.81 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11362.81.  
(a) A person specified in subdivision (b) shall be subject to the following penalties:  
(1) For the first offense, imprisonment in the county jail for no more than six months or a fine not to exceed one thousand dollars ($1,000), or both.  
(2) For a second or subsequent offense, imprisonment in the county jail for no more than one year, or a fine not to exceed one thousand dollars ($1,000), or both.  
(b) Subdivision (a) applies to any of the following:  
(1) A person who fraudulently represents a medical condition or fraudulently provides any material misinformation to a physician, county health department or the county’s designee, state or local law enforcement agency or officer, for the purpose of falsely obtaining an identification card.  
(2) A person who steals or fraudulently uses any person’s identification card in order to acquire, possess, cultivate, transport, use, produce, or distribute cannabis.  
(3) A person who counterfeits, tampers with, or fraudulently produces an identification card.  
(4) A person who breaches the confidentiality requirements of this article to information provided to, or contained in the records of, the department or county health department or the county’s designee pertaining to an identification card program.  
(c) In addition to the penalties prescribed in subdivision (a), a person described in subdivision (b) may be precluded from attempting to obtain, or obtaining or using, an identification card for a period of up to six months at the discretion of the court.  
(d) In addition to the requirements of this article, the Attorney General shall develop and adopt appropriate guidelines to ensure the security and nondiversion of cannabis grown for medicinal use by patients qualified under the Compassionate Use Act of 1996.

SECTION 11362.83 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11362.83.  
Nothing in this article shall prevent a city or other local governing body from adopting and enforcing any of the following:  
(a) Adopting local ordinances that regulate the location, operation, or establishment of a medicinal cannabis cooperative or collective.  
(b) The civil and criminal enforcement of local ordinances described in subdivision (a).  
(c) Enacting other laws consistent with this article.

11362.84.  
The status and conduct of a qualified patient who acts in accordance with the Compassionate Use Act shall not, by itself, be used to restrict or abridge custodial or parental rights to minor children in any action or proceeding under the jurisdiction of family or juvenile court.

SECTION 11362.85 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11362.85.  
Upon a determination by the California Attorney General that the federal schedule of controlled substances has been amended to reclassify or declassify cannabis, the Legislature may amend or repeal the provisions of this code, as necessary, to conform state law to such changes in federal law.

SECTION 11362.9 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11362.9.  
September 18, 2017 – This document may not contain the most recent statute language.
(a) (1) It is the intent of the Legislature that the state commission objective scientific research by the premier research institute of the world, the University of California, regarding the efficacy and safety of administering cannabis as part of medical treatment. If the Regents of the University of California, by appropriate resolution, accept this responsibility, the University of California shall create a program, to be known as the California Cannabis Research Program. Whenever “California Marijuana Research Program” appears in any statute, regulation, or contract, or in any other code, it shall be construed to refer to the California Cannabis Research Program.

(2) The program shall develop and conduct studies intended to ascertain the general medical safety and efficacy of cannabis and, if found valuable, shall develop medical guidelines for the appropriate administration and use of cannabis. The studies may include studies to ascertain the effect of cannabis on motor skills.

(b) The program may immediately solicit proposals for research projects to be included in the cannabis studies. Program requirements to be used when evaluating responses to its solicitation for proposals, shall include, but not be limited to, all of the following:

(1) Proposals shall demonstrate the use of key personnel, including clinicians or scientists and support personnel, who are prepared to develop a program of research regarding cannabis’ general medical efficacy and safety.

(2) Proposals shall contain procedures for outreach to patients with various medical conditions who may be suitable participants in research on cannabis.

(3) Proposals shall contain provisions for a patient registry.

(4) Proposals shall contain provisions for an information system that is designed to record information about possible study participants, investigators, and clinicians, and deposit and analyze data that accrues as part of clinical trials.

(5) Proposals shall contain protocols suitable for research on cannabis, addressing patients diagnosed with acquired immunodeficiency syndrome (AIDS) or human immunodeficiency virus (HIV), cancer, glaucoma, or seizures or muscle spasms associated with a chronic, debilitating condition. The proposal may also include research on other serious illnesses, provided that resources are available and medical information justifies the research.

(6) Proposals shall demonstrate the use of a specimen laboratory capable of housing plasma, urine, and other specimens necessary to study the concentration of cannabinoids in various tissues, as well as housing specimens for studies of toxic effects of cannabis.

(7) Proposals shall demonstrate the use of a laboratory capable of analyzing cannabis, provided to the program under this section, for purity and cannabinoid content and the capacity to detect contaminants.

(c) In order to ensure objectivity in evaluating proposals, the program shall use a peer review process that is modeled on the process used by the National Institutes of Health, and that guards against funding research that is biased in favor of or against particular outcomes. Peer reviewers shall be selected for their expertise in the scientific substance and methods of the proposed research, and their lack of bias or conflict of interest regarding the applicants or the topic of an approach taken in the proposed research. Peer reviewers shall judge research proposals on several criteria, foremost among which shall be both of the following:

(1) The scientific merit of the research plan, including whether the research design and experimental procedures are potentially biased for or against a particular outcome.

(2) Researchers’ expertise in the scientific substance and methods of the proposed research, and their lack of bias or conflict of interest regarding the topic of, and the approach taken in, the proposed research.

(d) If the program is administered by the Regents of the University of California, any grant research proposals approved by the program shall also require review and approval by the research advisory panel.

(e) It is the intent of the Legislature that the program be established as follows:

(1) The program shall be located at one or more University of California campuses that have a core of faculty experienced in organizing multidisciplinary scientific endeavors and, in particular, strong experience in clinical trials involving psychopharmacologic agents. The campuses at which research under the auspices of the program is to take place shall accommodate the
administrative offices, including the director of the program, as well as a data management unit, and facilities for storage of specimens.

(2) When awarding grants under this section, the program shall utilize principles and parameters of the other well-tested statewide research programs administered by the University of California, modeled after programs administered by the National Institutes of Health, including peer review evaluation of the scientific merit of applications.

(3) The scientific and clinical operations of the program shall occur, partly at University of California campuses, and partly at other postsecondary institutions, that have clinicians or scientists with expertise to conduct the required studies. Criteria for selection of research locations shall include the elements listed in subdivision (b) and, additionally, shall give particular weight to the organizational plan, leadership qualities of the program director, and plans to involve investigators and patient populations from multiple sites.

(4) The funds received by the program shall be allocated to various research studies in accordance with a scientific plan developed by the Scientific Advisory Council. As the first wave of studies is completed, it is anticipated that the program will receive requests for funding of additional studies. These requests shall be reviewed by the Scientific Advisory Council.

(5) The size, scope, and number of studies funded shall be commensurate with the amount of appropriated and available program funding.

(f) All personnel involved in implementing approved proposals shall be authorized as required by Section 11604.

(g) Studies conducted pursuant to this section shall include the greatest amount of new scientific research possible on the medical uses of, and medical hazards associated with, cannabis. The program shall consult with the Research Advisory Panel analogous agencies in other states, and appropriate federal agencies in an attempt to avoid duplicative research and the wasting of research dollars.

(h) The program shall make every effort to recruit qualified patients and qualified physicians from throughout the state.

(i) The cannabis studies shall employ state-of-the-art research methodologies.

(j) The program shall ensure that all cannabis used in the studies is of the appropriate medical quality and shall be obtained from the National Institute on Drug Abuse or any other federal agency designated to supply cannabis for authorized research. If these federal agencies fail to provide a supply of adequate quality and quantity within six months of the effective date of this section, the Attorney General shall provide an adequate supply pursuant to Section 11478.

(k) The program may review, approve, or incorporate studies and research by independent groups presenting scientifically valid protocols for medical research, regardless of whether the areas of study are being researched by the committee.

(l) (1) To enhance understanding of the efficacy and adverse effects of cannabis as a pharmacological agent, the program shall conduct focused controlled clinical trials on the usefulness of cannabis in patients diagnosed with AIDS or HIV, cancer, glaucoma, or seizures or muscle spasms associated with a chronic, debilitating condition. The program may add research on other serious illnesses, provided that resources are available and medical information justifies the research. The studies shall focus on comparisons of both the efficacy and safety of methods of administering the drug to patients, including inhalational, tinctural, and oral, evaluate possible uses of cannabis as a primary or adjunctive treatment, and develop further information on optimal dosage, timing, mode of administration, and variations in the effects of different cannabinoids and varieties of cannabis.

(2) The program shall examine the safety of cannabis in patients with various medical disorders, including cannabis’s interaction with other drugs, relative safety of inhalation versus oral forms, and the effects on mental function in medically ill persons.

(3) The program shall be limited to providing for objective scientific research to ascertain the efficacy and safety of cannabis as part of medical treatment, and should not be construed as encouraging or sanctioning the social or recreational use of cannabis.

(m) (1) Subject to paragraph (2), the program shall, prior to any approving proposals, seek to obtain research protocol guidelines from the National Institutes of Health and shall, if the National Institutes of Health issues research protocol guidelines, comply with those guidelines.
(2) If, after a reasonable period of time of not less than six months and not more than a year has elapsed from the date the program seeks to obtain guidelines pursuant to paragraph (1), no guidelines have been approved, the program may proceed using the research protocol guidelines it develops.

(n) In order to maximize the scope and size of the cannabis studies, the program may do any of the following:

(1) Solicit, apply for, and accept funds from foundations, private individuals, and all other funding sources that can be used to expand the scope or timeframe of the cannabis studies that are authorized under this section. The program shall not expend more than 5 percent of its General Fund allocation in efforts to obtain money from outside sources.

(2) Include within the scope of the cannabis studies other cannabis research projects that are independently funded and that meet the requirements set forth in subdivisions (a) to (c), inclusive. In no case shall the program accept any funds that are offered with any conditions other than that the funds be used to study the efficacy and safety of cannabis as part of medical treatment. Any donor shall be advised that funds given for purposes of this section will be used to study both the possible benefits and detriments of cannabis and that he or she will have no control over the use of these funds.

(o) (1) Within six months of the effective date of this section, the program shall report to the Legislature, the Governor, and the Attorney General on the progress of the cannabis studies.

(2) Thereafter, the program shall issue a report to the Legislature every six months detailing the progress of the studies. The interim reports required under this paragraph shall include, but not be limited to, data on all of the following:

(A) The names and number of diseases or conditions under study.

(B) The number of patients enrolled in each study by disease.

(C) Any scientifically valid preliminary findings.

(p) If the Regents of the University of California implement this section, the President of the University of California shall appoint a multidisciplinary Scientific Advisory Council, not to exceed 15 members, to provide policy guidance in the creation and implementation of the program. Members shall be chosen on the basis of scientific expertise. Members of the council shall serve on a voluntary basis, with reimbursement for expenses incurred in the course of their participation. The members shall be reimbursed for travel and other necessary expenses incurred in their performance of the duties of the council.

(q) No more than 10 percent of the total funds appropriated may be used for all aspects of the administration of this section.

(r) This section shall be implemented only to the extent that funding for its purposes is appropriated by the Legislature in the annual Budget Act.

SECTION 11364.5 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11364.5.

(a) Except as authorized by law, no person shall maintain or operate any place of business in which drug paraphernalia is kept, displayed or offered in any manner, sold, furnished, transferred or given away unless such drug paraphernalia is completely and wholly kept, displayed or offered within a separate room or enclosure to which persons under the age of 18 years not accompanied by a parent or legal guardian are excluded. Each entrance to such a room or enclosure shall be signposted in reasonably visible and legible words to the effect that drug paraphernalia is kept, displayed or offered in such room or enclosure and that minors, unless accompanied by a parent or legal guardian, are excluded.

(b) Except as authorized by law, no owner, manager, proprietor or other person in charge of any room or enclosure, within any place of business, in which drug paraphernalia is kept, displayed or offered in any manner, sold, furnished, transferred or given away shall permit or allow any person under the age of 18 years to enter, be in, remain in or visit such room or enclosure unless that minor person is accompanied by one of his or her parents or by his or her legal guardian.

(c) Unless authorized by law, no person under the age of 18 years shall enter, be in, remain in, or visit any room or enclosure in any place of business in which drug paraphernalia is kept, displayed or
offered in any manner, sold, furnished, transferred, or given away unless accompanied by one of his or her parents or by his or her legal guardian.

(d) As used in this section, “drug paraphernalia” means all equipment, products, and materials of any kind which are intended for use or designed for use, in planting, propagating, cultivating, growing, harvesting, manufacturing, compounding, converting, producing, processing, preparing, testing, analyzing, packaging, repackaging, storing, containing, concealing, injecting, ingesting, inhaling, or otherwise introducing into the human body a controlled substance. “Drug paraphernalia” includes, but is not limited to, all of the following:

(1) Kits intended for use or designed for use in planting, propagating, cultivating, growing, or harvesting of any species of plant which is a controlled substance or from which a controlled substance can be derived.

(2) Kits intended for use or designed for use in manufacturing, compounding, converting, producing, processing, or preparing controlled substances.

(3) Isomerization devices intended for use or designed for use in increasing the potency of any species of plant which is a controlled substance.

(4) Testing equipment intended for use or designed for use in identifying, or in analyzing the strength, effectiveness, or purity of controlled substances.

(5) Scales and balances intended for use or designed for use in weighing or measuring controlled substances.

(6) Diluents and adulterants, such as quinine hydrochloride, mannitol, mannite, dextrose, and lactose, intended for use or designed for use in cutting controlled substances.

(7) Separation gins and sifters intended for use or designed for use in removing twigs and seeds from, or in otherwise cleaning or refining, cannabis.

(8) Blenders, bowls, containers, spoons, and mixing devices intended for use or designed for use in compounding controlled substances.

(9) Capsules, balloons, envelopes, and other containers intended for use or designed for use in packaging small quantities of controlled substances.

(10) Containers and other objects intended for use or designed for use in storing or concealing controlled substances.

(11) Hypodermic syringes, needles, and other objects intended for use or designed for use in parenterally injecting controlled substances into the human body.

(12) Objects intended for use or designed for use in ingesting, inhaling, or otherwise introducing cannabis, cocaine, hashish, or hashish oil into the human body, such as the following:

(A) Metal, wooden, acrylic, glass, stone, plastic, or ceramic pipes with or without screens, permanent screens, hashish heads, or punctured metal bowls.

(B) Water pipes.

(C) Carburetion tubes and devices.

(D) Smoking and carburetion masks.

(E) Roach clips, meaning objects used to hold burning material, such as a cannabis cigarette that has become too small or too short to be held in the hand.

(F) Miniature cocaine spoons, and cocaine vials.

(G) Chamber pipes.

(H) Carburetor pipes.

(I) Electric pipes.

(J) Air-driven pipes.

(K) Chillums.

(L) Bongs.

(M) Ice pipes or chillers.

(e) In determining whether an object is drug paraphernalia, a court or other authority may consider, in addition to all other logically relevant factors, the following:

(1) Statements by an owner or by anyone in control of the object concerning its use.

(2) Prior convictions, if any, of an owner, or of anyone in control of the object, under any state or federal law relating to any controlled substance.

(3) Direct or circumstantial evidence of the intent of an owner, or of anyone in control of the object, to deliver it to persons whom he or she knows, or should reasonably know, intend to use the...
object to facilitate a violation of this section. The innocence of an owner, or of anyone in control of the object, as to a direct violation of this section shall not prevent a finding that the object is intended for use, or designed for use, as drug paraphernalia.

(4) Instructions, oral or written, provided with the object concerning its use.

(5) Descriptive materials, accompanying the object which explain or depict its use.

(6) National and local advertising concerning its use.

(7) The manner in which the object is displayed for sale.

(8) Whether the owner, or anyone in control of the object, is a legitimate supplier of like or related items to the community, such as a licensed distributor or dealer of tobacco products.

(9) The existence and scope of legitimate uses for the object in the community.

(10) Expert testimony concerning its use.

(f) This section shall not apply to any of the following:

(1) Any pharmacist or other authorized person who sells or furnishes drug paraphernalia described in paragraph (11) of subdivision (d) upon the prescription of a physician, dentist, podiatrist, or veterinarian.

(2) Any physician, dentist, podiatrist, or veterinarian who furnishes or prescribes drug paraphernalia described in paragraph (11) of subdivision (d) to his or her patients.

(3) Any manufacturer, wholesaler, or retailer licensed by the California State Board of Pharmacy to sell or transfer drug paraphernalia described in paragraph (11) of subdivision (d).

(g) Notwithstanding any other provision of law, including Section 11374, violation of this section shall not constitute a criminal offense, but operation of a business in violation of the provisions of this section shall be grounds for revocation or nonrenewal of any license, permit, or other entitlement previously issued by a city, county, or city and county for the privilege of engaging in such business and shall be grounds for denial of any future license, permit, or other entitlement authorizing the conduct of such business or any other business, if the business includes the sale of drug paraphernalia.

SECTION 11470 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11470. The following are subject to forfeiture:

(a) All controlled substances which have been manufactured, distributed, dispensed, or acquired in violation of this division.

(b) All raw materials, products, and equipment of any kind which are used, or intended for use, in manufacturing, compounding, processing, delivering, importing, or exporting any controlled substance in violation of this division.

(c) All property except real property or a boat, airplane, or any vehicle which is used, or intended for use, as a container for property described in subdivision (a) or (b).

(d) All books, records, and research products and materials, including formulas, microfilm, tapes, and data which are used, or intended for use, in violation of this division.

(e) The interest of any registered owner of a boat, airplane, or any vehicle other than an implement of husbandry, as defined in Section 36000 of the Vehicle Code, which has been used as an instrument to facilitate the manufacture of, or possession for sale or sale of 14.25 grams or more of heroin, or a substance containing 14.25 grams or more of heroin, or 14.25 grams or more of a substance containing heroin, or 28.5 grams or more of Schedule I controlled substances except cannabis, peyote, or psilocybin; 10 pounds dry weight or more of cannabis, peyote, or psilocybin; or 28.5 grams or more of cocaine, as specified in paragraph (6) of subdivision (b) of Section 11055, cocaine base as specified in paragraph (1) of subdivision (f) of Section 11054, or methamphetamine; or a substance containing 28.5 grams or more of cocaine, as specified in paragraph (6) of subdivision (b) of Section 11054, cocaine base as specified in paragraph (1) of subdivision (f) of Section 11054, or methamphetamine; or 57 grams or more of a substance containing cocaine, as specified in paragraph (6) of subdivision (b) of Section 11054, cocaine base as specified in paragraph (1) of subdivision (f) of Section 11054, or methamphetamine; or 28.5 grams or more of Schedule II controlled substances. An interest in a vehicle which may be lawfully driven on the highway with a class C, class M1, or class M2 license, as prescribed in Section 12804.9 of the Vehicle Code, shall not be forfeited under this

Appendix H

September 18, 2017 – This document may not contain the most recent statute language
subdivision if there is a community property interest in the vehicle by a person other than the
defendant and the vehicle is the sole class C, class M1, or class M2 vehicle available to the
defendant’s immediate family.

(f) All moneys, negotiable instruments, securities, or other things of value furnished or intended to be
furnished by any person in exchange for a controlled substance, all proceeds traceable to such an
exchange, and all moneys, negotiable instruments, or securities used or intended to be used to
facilitate any violation of Section 11351, 11351.5, 11352, 11355, 11359, 11360, 11378, 11378.5,
11379, 11379.5, 11379.6, 11380, 11382, or 11383 of this code, or Section 182 of the Penal Code, or
a felony violation of Section 11366.8 of this code, insofar as the offense involves manufacture, sale,
possession for sale, offer for sale, or offer to manufacture, or conspiracy to commit at least one of
those offenses, if the exchange, violation, or other conduct which is the basis for the forfeiture
occurred within five years of the seizure of the property, or the filing of a petition under this chapter, or
the issuance of an order of forfeiture of the property, whichever comes first.

(g) The real property of any property owner who is convicted of violating Section 11366, 11366.5, or
11366.6 with respect to that property. However, property which is used as a family residence or for
other lawful purposes, or which is owned by two or more persons, one of whom had no knowledge of
its unlawful use, shall not be subject to forfeiture.

(h) (1) Subject to the requirements of Section 11488.5 and except as further limited by this subdivision to
protect innocent parties who claim a property interest acquired from a defendant, all right, title, and
interest in any personal property described in this section shall vest in the state upon commission
of the act giving rise to forfeiture under this chapter, if the state or local governmental entity proves
a violation of Section 11351, 11351.5, 11352, 11355, 11359, 11360, 11378, 11378.5, 11379,
11379.5, 11379.6, 11380, 11382, or 11383 of this code, or Section 182 of the Penal Code, or a
felony violation of Section 11366.8 of this code, insofar as the offense involves the manufacture,
sale, possession for sale, offer for sale, offer to manufacture, or conspiracy to commit at least one
of those offenses, in accordance with the burden of proof set forth in paragraph (1) of subdivision
(i) of Section 11488.4 or, in the case of cash or negotiable instruments in excess of twenty-five
thousand dollars ($25,000), paragraph (4) of subdivision (i) of Section 11488.4.

(2) The operation of the special vesting rule established by this subdivision shall be limited to
circumstances where its application will not defeat the claim of any person, including a bona fide
purchaser or encumbrancer who, pursuant to Section 11488.5, 11488.6, or 11489, claims an
interest in the property seized, notwithstanding that the interest in the property being claimed was
acquired from a defendant whose property interest would otherwise have been subject to
divestment pursuant to this subdivision.

SECTION 11478 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

Cannabis may be provided by the Attorney General to the heads of research projects which have been
registered by the Attorney General, and which have been approved by the research advisory panel
pursuant to Section 11480.

The head of the approved research project shall personally receipt for such quantities of cannabis and
shall make a record of their disposition. The receipt and record shall be retained by the Attorney General.
The head of the approved research project shall also, at intervals and in the manner required by the
research advisory panel, report the progress or conclusions of the research project.

SECTION 11479 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

Notwithstanding Sections 11473 and 11473.5, at any time after seizure by a law enforcement agency of a
suspected controlled substance, except in the case of growing or harvested cannabis, that amount in
excess of 10 pounds in gross weight may be destroyed without a court order by the chief of the law
enforcement agency or a designated subordinate. In the case of growing or harvested cannabis, that

September 18, 2017 – This document may not contain the most recent statute language
amount in excess of two pounds, or the amount of cannabis a medicinal cannabis patient or designated caregiver is authorized to possess by ordinance in the city or county where the cannabis was seized, whichever is greater, may be destroyed without a court order by the chief of the law enforcement agency or a designated subordinate. Destruction shall not take place pursuant to this section until all of the following requirements are satisfied:

(a) At least five random and representative samples have been taken, for evidentiary purposes, from the total amount of suspected controlled substances to be destroyed. These samples shall be in addition to the 10 pounds required above. When the suspected controlled substance consists of growing or harvested cannabis plants, at least one 2-pound sample or a sample in the amount of medicinal cannabis a medicinal cannabis patient or designated caregiver is authorized to possess by ordinance in the city or county where the cannabis was seized, whichever is greater, shall be retained. This sample may include stalks, branches, or leaves. In addition, five representative samples of leaves or buds shall be retained for evidentiary purposes from the total amount of suspected controlled substances to be destroyed.

(b) Photographs and videos have been taken that reasonably and accurately demonstrate the total amount of the suspected controlled substance to be destroyed.

(c) The gross weight of the suspected controlled substance has been determined, either by actually weighing the suspected controlled substance or by estimating that weight after dimensional measurement of the total suspected controlled substance.

(d) The chief of the law enforcement agency has determined that it is not reasonably possible to preserve the suspected controlled substance in place, or to remove the suspected controlled substance to another location. In making this determination, the difficulty of transporting and storing the suspected controlled substance to another site and the storage facilities may be taken into consideration.

Subsequent to any destruction of a suspected controlled substance pursuant to this section, an affidavit shall be filed within 30 days in the court that has jurisdiction over any pending criminal proceedings pertaining to that suspected controlled substance, reciting the applicable information required by subdivisions (a), (b), (c), and (d) together with information establishing the location of the suspected controlled substance, and specifying the date and time of the destruction. In the event that there are no criminal proceedings pending that pertain to that suspected controlled substance, the affidavit may be filed in any court within the county that would have jurisdiction over a person against whom those criminal charges might be filed.

SECTION 11479.2 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11479.2. Notwithstanding the provisions of Sections 11473, 11473.5, 11474, 11479, and 11479.1, at any time after seizure by a law enforcement agency of a suspected controlled substance, except cannabis, any amount, as determined by the court, in excess of 57 grams may, by court order, be destroyed by the chief of a law enforcement agency or a designated subordinate. Destruction shall not take place pursuant to this section until all of the following requirements are satisfied:

(a) At least five random and representative samples have been taken, for evidentiary purposes, from the total amount of suspected controlled substances to be destroyed. Those samples shall be in addition to the 57 grams required above and each sample shall weigh not less than one gram at the time the sample is collected.

(b) Photographs have been taken which reasonably demonstrate the total amount of the suspected controlled substance to be destroyed.

(c) The gross weight of the suspected controlled substance has been determined, either by actually weighing the suspected controlled substance or by estimating such weight after dimensional measurement of the total suspected controlled substance.

(d) In cases involving controlled substances suspected of containing cocaine or methamphetamine, an analysis has determined the qualitative and quantitative nature of the suspected controlled substance.
(e) The law enforcement agency with custody of the controlled substance sought to be destroyed has filed a written motion for the order of destruction in the court which has jurisdiction over any pending criminal proceeding in which a defendant is charged by accusatory pleading with a crime specifically involving the suspected controlled substance sought to be destroyed. The motion shall, by affidavit of the chief of the law enforcement agency or designated subordinate, recite the applicable information required by subdivisions (a), (b), (c), and (d), together with information establishing the location of the suspected controlled substance and the title of any pending criminal proceeding as defined in this subdivision. The motion shall bear proof of service upon all parties to any pending criminal proceeding. No motion shall be made when a defendant is without counsel until the defendant has entered his or her plea to the charges.

(f) The order for destruction shall issue pursuant to this section upon the motion and affidavit in support of the order, unless within 20 days after application for the order, a defendant has requested, in writing, a hearing on the motion. Within 10 days after the filing of that request, or a longer period of time upon good cause shown by either party, the court shall conduct a hearing on the motion in which each party to the motion for destruction shall be permitted to call and examine witnesses. The hearing shall be recorded. Upon conclusion of the hearing, if the court finds that the defendant would not be prejudiced by the destruction, it shall grant the motion and make an order for destruction. In making the order, the court shall ensure that the representative samples to be retained are of sufficient quantities to allow for qualitative analyses by both the prosecution and the defense. Any order for destruction pursuant to this section shall include the applicable information required by subdivisions (a), (b), (c), (d), and (e) and the name of the agency responsible for the destruction. Unless waived, the order shall provide for a 10-day delay prior to destruction in order to allow expert analysis of the controlled substance by the defense.

Subsequent to any destruction of a suspected controlled substance pursuant to this section, an affidavit shall be filed within 30 days in the court which ordered destruction stating the location of the retained, suspected controlled substance and specifying the date and time of destruction.

This section does not apply to seizures involving hazardous chemicals or controlled substances in mixture or combination with hazardous chemicals.

SECTION 11480 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11480.
(a) The Legislature finds that there is a need to encourage further research into the nature and effects of cannabis and hallucinogenic drugs and to coordinate research efforts on such subjects.
(b) There is a Research Advisory Panel that consists of a representative of the State Department of Health Services, a representative of the California State Board of Pharmacy, the State Public Health Officer, a representative of the Attorney General, a representative of the University of California who shall be a pharmacologist, a physician, or a person holding a doctorate degree in the health sciences, a representative of a private university in this state who shall be a pharmacologist, a physician, or a person holding a doctorate degree in the health sciences, a representative of a statewide professional medical society in this state who shall be engaged in the private practice of medicine and shall be experienced in treating controlled substance dependency, a representative appointed by the Governor who shall have experience in drug abuse, cancer, or controlled substance research and who is either a registered nurse, licensed pursuant to Chapter 6 (commencing with Section 2700) of Division 2 of the Business and Professions Code, or other health professional. The Governor shall annually designate the private university and the professional medical society represented on the panel. Members of the panel shall be appointed by the heads of the entities to be represented, and they shall serve at the pleasure of the appointing power.
(c) The Research Advisory Panel shall appoint two special members to the Research Advisory Panel, who shall serve at the pleasure of the Research Advisory Panel only during the period Article 6 (commencing with Section 11260) of Chapter 5 remains effective. The additional members shall be physicians and surgeons, and who are board certified in oncology, ophthalmology, or psychiatry.
(d) The panel shall annually select a chairperson from among its members.
(e) The panel may hold hearings on, and in other ways study, research projects concerning cannabis or hallucinogenic drugs in this state. Members of the panel shall serve without compensation, but shall be reimbursed for any actual and necessary expenses incurred in connection with the performance of their duties.
(f) The panel may approve research projects, which have been registered by the Attorney General, into the nature and effects of cannabis or hallucinogenic drugs, and shall inform the Attorney General of the head of the approved research projects that are entitled to receive quantities of cannabis pursuant to Section 11478.
(g) The panel may withdraw approval of a research project at any time, and when approval is withdrawn shall notify the head of the research project to return any quantities of cannabis to the Attorney General.
(h) The panel shall report annually to the Legislature and the Governor those research projects approved by the panel, the nature of each research project, and, where available, the conclusions of the research project.

SECTION 11485 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11485.
Any peace officer of this state who, incident to a search under a search warrant issued for a violation of Section 11358 with respect to which no prosecution of a defendant results, seizes personal property suspected of being used in the planting, cultivation, harvesting, drying, processing, or transporting of cannabis, shall, if the seized personal property is not being held for evidence or destroyed as contraband, and if the owner of the property is unknown or has not claimed the property, provide notice regarding the seizure and manner of reclamation of the property to any owner or tenant of real property on which the property was seized. In addition, this notice shall be posted at the location of seizure and shall be published at least once in a newspaper of general circulation in the county in which the property was seized. If, after 90 days following the first publication of the notice, no owner appears and proves his or her ownership, the seized personal property shall be deemed to be abandoned and may be disposed of by sale to the public at public auction as set forth in Article 1 (commencing with Section 2080) of Chapter 4 of Title 6 of Part 4 of Division 3 of the Civil Code, or may be disposed of by transfer to a government agency or community service organization. Any profit from the sale or transfer of the property shall be expended for investigative services with respect to crimes involving cannabis.

SECTION 11532 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11532.
(a) It is unlawful for any person to loiter in any public place in a manner and under circumstances manifesting the purpose and with the intent to commit an offense specified in Chapter 6 (commencing with Section 11350) and Chapter 6.5 (commencing with Section 11400).
(b) Among circumstances that may be considered in determining whether a person has the requisite intent to engage in drug-related activity are that the person:
   (1) Acts as a “look-out.”
   (2) Transfers small objects or packages for currency in a furtive fashion.
   (3) Tries to conceal himself or herself or any object that reasonably could be involved in an unlawful drug-related activity.
   (4) Uses signals or language indicative of summoning purchasers of illegal drugs.
   (5) Repeatedly beckons to, stops, attempts to stop, or engages in conversations with passersby, whether on foot or in a motor vehicle, indicative of summoning purchasers of illegal drugs.
   (6) Repeatedly passes to or receives from passersby, whether on foot or in a motor vehicle, money or small objects.
   (7) Is under the influence of a controlled substance or possesses narcotic or drug paraphernalia. For the purposes of this paragraph, “narcotic or drug paraphernalia” means any device, contrivance, instrument, or apparatus designed or marketed for the use of smoking, injecting, ingesting, or
consuming cannabis, hashish, PCP, or any controlled substance, including, but not limited to, roach clips, cigarette papers, and rollers designed or marketed for use in smoking a controlled substance.

(8) Has been convicted in any court within this state, within five years prior to the arrest under this chapter, of any violation involving the use, possession, or sale of any of the substances referred to in Chapter 6 (commencing with Section 11350) or Chapter 6.5 (commencing with Section 11400), or has been convicted of any violation of those provisions or substantially similar laws of any political subdivision of this state or of any other state.

(9) Is currently subject to any order prohibiting his or her presence in any high drug activity geographic area.

(10) Has engaged, within six months prior to the date of arrest under this section, in any behavior described in this subdivision, with the exception of paragraph (8), or in any other behavior indicative of illegal drug-related activity.

(c) The list of circumstances set forth in subdivision (b) is not exclusive. The circumstances set forth in subdivision (b) should be considered particularly salient if they occur in an area that is known for unlawful drug use and trafficking, or if they occur on or in premises that have been reported to law enforcement as a place suspected of unlawful drug activity. Any other relevant circumstances may be considered in determining whether a person has the requisite intent. Moreover, no one circumstance or combination of circumstances is in itself determinative of intent. Intent must be determined based on an evaluation of the particular circumstances of each case.

SECTION 11553 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

11553.
The fact that a person is or has been, or is suspected of being, a user of cannabis is not alone sufficient grounds upon which to invoke Section 11551 or 11552.

This section shall not be construed to limit the discretion of a judge to invoke Section 11551 or 11552 if the court has reason to believe a person is or has been a user of narcotics or drugs other than cannabis.

SECTION 109925 OF THE HEALTH AND SAFETY CODE IS AMENDED TO READ:

109925.
(a) “Drug” means any of the following:
   (1) An article recognized in an official compendium.
   (2) An article used or intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease in human beings or any other animal.
   (3) An article other than food, that is used or intended to affect the structure or any function of the body of human beings or any other animal.
   (4) An article used or intended for use as a component of an article designated in paragraphs (1) to (3), inclusive.

(b) The term “drug” does not include any device.

(c) Any food for which a claim (as described in Sections 403(r)(1)(B) (21 U.S.C. Sec. 343(r)(1)(B)) and 403(r)(3) (21 U.S.C. Sec. 343(r)(3)) or Sections 403(r)(1)(B) (21 U.S.C. Sec. 343(r)(1)(B)) and 403(r)(5)(D) (21 U.S.C. Sec. 343(r)(5)(D)) of the federal act), is made in accordance with the requirements set forth in Section 403(r) (21 U.S.C. Sec. 343(r)) of the federal act, is not a drug under subdivision (b) solely because the label or labeling contains such a claim.

(d) Cannabis product, including any cannabis product intended for external use, is not a drug.
The heading of Part 14.5 (commencing with Section 34010) of Division 2 of the Revenue and Taxation Code is amended to read: **PART 14.5. Cannabis Tax**

**SECTION 34010 OF THE REVENUE AND TAXATION CODE IS AMENDED TO READ:**

34010. For purposes of this part:

(a) “Arm’s length transaction” shall mean a sale entered into in good faith and for valuable consideration that reflects the fair market value in the open market between two informed and willing parties, neither under any compulsion to participate in the transaction.

(b) “Average market price” shall mean:

(1) In an arm’s length transaction, the average market price means the average retail price determined by the wholesale cost of the cannabis or cannabis products sold or transferred to a cannabis retailer, plus a mark-up, as determined by the department on a biannual basis in six-month intervals.

(2) In a nonarm’s length transaction, the average market price means the cannabis retailer’s gross receipts from the retail sale of the cannabis or cannabis products.

(c) “Department” shall mean the California Department of Tax and Fee Administration or its successor agency.

(d) “Bureau” shall mean the Bureau of Cannabis Control within the Department of Consumer Affairs.

(e) “Tax Fund” means the California Cannabis Tax Fund created by Section 34018.

(f) “Cannabis” shall have the same meaning as set forth in Section 11018 of the Health and Safety Code and shall also mean medicinal cannabis.

(g) “Cannabis products” shall have the same meaning as set forth in Section 11018.1 of the Health and Safety Code and shall also mean medicinal concentrates and medicinal cannabis products.

(h) “Cannabis flowers” shall mean the dried flowers of the cannabis plant as defined by the board.

(i) “Cannabis leaves” shall mean all parts of the cannabis plant other than cannabis flowers that are sold or consumed.

(j) “Cannabis retailer” shall mean a person required to be licensed as a retailer, microbusiness, or nonprofit pursuant to Division 10 (commencing with Section 26000) of the Business and Professions Code.

(k) “Cultivator” shall mean all persons required to be licensed to cultivate cannabis pursuant to Division 10 (commencing with Section 26000) of the Business and Professions Code.

(l) “Distributor” shall mean a person required to be licensed as a distributor pursuant to Division 10 (commencing with Section 26000) of the Business and Professions Code.

(m) “Enters the commercial market” shall mean cannabis or cannabis product, except for immature cannabis plants and seeds, that complete and comply with a quality assurance review and testing, as described in Section 26110 of the Business and Professions Code.

(n) “Gross receipts” shall have the same meaning as set forth in Section 6012.

(o) “Microbusiness” shall have the same meaning as set forth in paragraph (3) of subdivision (a) of Section 26070 of the Business and Professions Code.

(p) “Nonprofit” shall have the same meaning as set forth in Section 26070.5 of the Business and Professions Code.

(q) "Person" shall have the same meaning as set forth in Section 6005.

(r) "Retail sale" shall have the same meaning as set forth in Section 6007.

(s) “Sale” and “purchase” shall mean any change of title or possession, exchange, or barter, conditional or otherwise, in any manner or by any means whatsoever, for consideration.

(t) “Transfer” shall mean to grant, convey, hand over, assign, sell, exchange, or barter, in any manner or by any means, with or without consideration.

(u) “Unprocessed cannabis” shall include cannabis flowers, cannabis leaves, or other categories of harvested cannabis, categories for unprocessed or frozen cannabis or immature plants, or cannabis that is shipped directly to manufacturers.
(v) "Manufacturer" shall mean a person required to be licensed as a manufacturer pursuant to Division 10 (commencing with Section 26000) of the Business and Professions Code.

SECTION 34011 OF THE REVENUE AND TAXATION CODE IS AMENDED TO READ:

34011.
(a) (1) Effective January 1, 2018, a cannabis excise tax shall be imposed upon purchasers of cannabis or cannabis products sold in this state at the rate of 15 percent of the average market price of any retail sale by a cannabis retailer. A purchaser's liability for the cannabis excise tax is not extinguished until the cannabis excise tax has been paid to this state except that an invoice, receipt, or other document from a cannabis retailer given to the purchaser pursuant to this subdivision is sufficient to relieve the purchaser from further liability for the tax to which the invoice, receipt, or other document refers.

(2) Each cannabis retailer shall provide a purchaser with an invoice, receipt, or other document that includes a statement that reads: “The cannabis excise taxes are included in the total amount of this invoice.”

(3) The department may prescribe other means to display the cannabis excise tax on an invoice, receipt, or other document from a cannabis retailer given to the purchaser.

(b) (1) A distributor in an arm’s length transaction shall collect the cannabis excise tax from the cannabis retailer on or before 90 days after the sale or transfer of cannabis or cannabis product to the cannabis retailer. A distributor in a nonarm’s length transaction shall collect the cannabis excise tax from the cannabis retailer on or before 90 days after the sale or transfer of cannabis or cannabis product to the cannabis retailer, or at the time of retail sale by the cannabis retailer, whichever is earlier. A distributor shall report and remit the cannabis excise tax to the department pursuant to Section 34015. A cannabis retailer shall be responsible for collecting the cannabis excise tax from the purchaser and remitting the cannabis excise tax to the distributor in accordance with rules and procedures established under law and any regulations adopted by the department.

(2) A distributor shall provide an invoice, receipt, or other similar document to the cannabis retailer that identifies the licensee receiving the product, the distributor from which the product originates, including the associated unique identifier, the amount of cannabis excise tax, and any other information deemed necessary by the department. The department may authorize other forms of documentation under this paragraph.

(c) The excise tax imposed by this section shall be in addition to the sales and use tax imposed by the state and local governments.

(d) Gross receipts from the sale of cannabis or cannabis products for purposes of assessing the sales and use tax under Part 1 (commencing with Section 6001) shall include the tax levied pursuant to this section.

(e) Cannabis or cannabis products shall not be sold to a purchaser unless the excise tax required by law has been paid by the purchaser at the time of sale.

(f) The sales and use taxes imposed by Part 1 (commencing with Section 6001) shall not apply to retail sales of medicinal cannabis, medicinal cannabis concentrate, edible medicinal cannabis products, or topical cannabis as those terms are defined in Division 10 (commencing with Section 26000) of the Business and Professions Code when a qualified patient or primary caregiver for a qualified patient provides his or her card issued under Section 11362.71 of the Health and Safety Code and a valid government-issued identification card.

SECTION 34012 OF THE REVENUE AND TAXATION CODE IS AMENDED TO READ:

34012.
(a) Effective January 1, 2018, there is hereby imposed a cultivation tax on all harvested cannabis that enters the commercial market upon all cultivators. The tax shall be due after the cannabis is harvested and enters the commercial market.

September 18, 2017 – This document may not contain the most recent statute language
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Medicinal and Adult-Use Cannabis Regulation and Safety Act
Senate Bill 94, Proposition 64, and Assembly Bill 133

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Appendix H-97

(1) The tax for cannabis flowers shall be nine dollars and twenty-five cents ($9.25) per dry-weight ounce.
(2) The tax for cannabis leaves shall be set at two dollars and seventy-five cents ($2.75) per dry-weight ounce.

(b) The department may adjust the tax rate for cannabis leaves annually to reflect fluctuations in the relative price of cannabis flowers to cannabis leaves.

(c) The department may from time to time establish other categories of harvested cannabis, categories for unprocessed or frozen cannabis or immature plants, or cannabis that is shipped directly to manufacturers. These categories shall be taxed at their relative value compared with cannabis flowers.

(d) The department may prescribe by regulation a method and manner for payment of the cultivation tax that utilizes tax stamps or state-issued product bags that indicate that all required tax has been paid on the product to which the tax stamp is affixed or in which the cannabis is packaged.

(e) The tax stamps and product bags shall be of the designs, specifications, and denominations as may be prescribed by the department and may be purchased by any licensee under Division 10 (commencing with Section 26000) of the Business and Professions Code.

(f) Subsequent to the establishment of a tax stamp program, the department may by regulation provide that cannabis shall not be removed from a licensed cultivation facility or transported on a public highway unless in a state-issued product bag bearing a tax stamp in the proper denomination.

(g) The tax stamps and product bags shall be capable of being read by a scanning or similar device and must be traceable utilizing the track and trace system pursuant to Section 26068 of the Business and Professions Code.

(h) Cultivators shall be responsible for payment of the tax pursuant to regulations adopted by the department. A cultivator's liability for the tax is not extinguished until the tax has been paid to this state except that an invoice, receipt, or other document from a distributor or manufacturer given to the cultivator pursuant to paragraph (3) is sufficient to relieve the cultivator from further liability for the tax to which the invoice, receipt, or other document refers. Cannabis shall not be sold unless the tax has been paid as provided in this part.

(1) A distributor shall collect the cultivation tax from a cultivator on all harvested cannabis that enters the commercial market. This paragraph shall not apply where a cultivator is not required to send, and does not send, the harvested cannabis to a distributor.

(2) (A) A manufacturer shall collect the cultivation tax from a cultivator on the first sale or transfer of unprocessed cannabis by a cultivator to a manufacturer. The manufacturer shall remit the cultivation tax collected on the cannabis product sold or transferred to a distributor for quality assurance, inspection, and testing, as described in Section 26110 of the Business and Professions Code. This paragraph shall not apply where a distributor collects the cultivation tax from a cultivator pursuant to paragraph (1).

(B) Notwithstanding subparagraph (A), the department may prescribe a substitute method and manner for collection and remittance of the cultivation tax under this paragraph, including a method and manner for collection of the cultivation tax by a distributor.

(3) A distributor or manufacturer shall provide to the cultivator, and a distributor that collects the cultivation tax from a manufacturer pursuant to paragraph (2) shall provide to the manufacturer, an invoice, receipt, or other similar document that identifies the licensee receiving the product, the cultivator from which the product originates, including the associated unique identifier, the amount of cultivation tax, and any other information deemed necessary by the department. The department may authorize other forms of documentation under this paragraph.

(4) The department may adopt regulations prescribing procedures for the refund of cultivation tax collected on cannabis or cannabis product that fails quality assurance, inspection, and testing as described in Section 26110 of the Business and Professions Code.

(i) All cannabis removed from a cultivator’s premises, except for plant waste, shall be presumed to be sold and thereby taxable under this section.

(j) The tax imposed by this section shall be imposed on all cannabis cultivated in the state pursuant to rules and regulations promulgated by the department, but shall not apply to cannabis cultivated for personal use under Section 11362.1 of the Health and Safety Code or cultivated by a qualified patient.
Comprehensive
Medicinal and Adult-Use Cannabis Regulation and Safety Act
Senate Bill 94, Proposition 64, and Assembly Bill 133

or primary caregiver in accordance with the Compassionate Use Act of 1996 (Section 11362.5 of the Health and Safety Code).

(k) Beginning January 1, 2020, the rates set forth in subdivisions (a), (b), and (c) shall be adjusted by the department annually thereafter for inflation.

(l) The Department of Food and Agriculture is not responsible for enforcing any provisions of the cultivation tax.

SECTION 34012.5 OF THE REVENUE AND TAXATION CODE IS AMENDED TO READ:

34012.5.
(a) The cultivation tax and cannabis excise tax required to be collected by the distributor, or required to be collected by the manufacturer pursuant to paragraph (2) of subdivision (h) of Section 34012, and any amount unreturned to the cultivator or cannabis retailer that is not tax but was collected from the cultivator or cannabis retailer under the representation by the distributor or the manufacturer that it was tax constitute debts owed by the distributor or the manufacturer to this state.

(b) A distributor or manufacturer that has collected any amount of tax in excess of the amount of tax imposed by this part and actually due from a cultivator or cannabis retailer, may refund such amount to the cultivator or cannabis retailer, even though such tax amount has already been paid over to the department and no corresponding credit or refund has yet been secured. The distributor or manufacturer may claim credit for that overpayment against the amount of tax imposed by this part that is due upon any other quarterly return, providing that credit is claimed in a return dated no later than three years from the date of overpayment.

(c) Any tax collected from a cultivator or cannabis retailer that has not been remitted to the department shall be deemed a debt owed to the State of California by the person required to collect and remit the tax.

SECTION 34013 OF THE REVENUE AND TAXATION CODE IS AMENDED TO READ:

34013.
(a) The board shall administer and collect the taxes imposed by this part pursuant to the Fee Collection Procedures Law (Part 30 (commencing with Section 55001)). For purposes of this part, the references in the Fee Collection Procedures Law to “fee” shall include the taxes imposed by this part, and references to “feepayer” shall include a person required to pay or collect the taxes imposed by this part.

(b) The board may prescribe, adopt, and enforce regulations relating to the administration and enforcement of this part, including, but not limited to, collections, reporting, refunds, and appeals.

(c) The board shall adopt necessary rules and regulations to administer the taxes in this part. Such rules and regulations may include methods or procedures to tag cannabis or cannabis products, or the packages thereof, to designate prior tax payment.

(d) Until January 1, 2019, the board may prescribe, adopt, and enforce any emergency regulations as necessary to implement, administer, and enforce its duties under this division. Any emergency regulation prescribed, adopted, or enforced pursuant to this section shall be adopted in accordance with Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code, and, for purposes of that chapter, including Section 11349.6 of the Government Code, the adoption of the regulation is an emergency and shall be considered by the Office of Administrative Law as necessary for the immediate preservation of the public peace, health and safety, and general welfare. Notwithstanding any other provision of law, the emergency regulations adopted by the board may remain in effect for two years from adoption.

(e) Any person required to be licensed pursuant to Division 10 (commencing with Section 26000) of the Business and Professions Code who fails to pay the taxes imposed under this part shall, in addition to owing the taxes not paid, be subject to a penalty of at least one-half the amount of the taxes not paid, and shall be subject to having its license revoked pursuant to Section 26031 of the Business and Professions Code.
(f) The board may bring such legal actions as are necessary to collect any deficiency in the tax required to be paid, and, upon the board’s request, the Attorney General shall bring the actions.

SECTION 34014 OF THE REVENUE AND TAXATION CODE IS AMENDED TO READ:

34014.
(a) All distributors must obtain a separate permit from the board pursuant to regulations adopted by the board. No fee shall be charged to any person for issuance of the permit. Any person required to obtain a permit who engages in business as a distributor without a permit or after a permit has been canceled, suspended, or revoked, and each officer of any corporation which so engages in business, is guilty of a misdemeanor.
(b) The board may require every licensed distributor, retailer, cultivator, microbusiness, nonprofit, or other person required to be licensed, to provide security to cover the liability for taxes imposed by state law on cannabis produced or received by the retailer, cultivator, microbusiness, nonprofit, or other person required to be licensed in accordance with procedures to be established by the board. Notwithstanding anything herein to the contrary, the board may waive any security requirement it imposes for good cause, as determined by the board. “Good cause” includes, but is not limited to, the inability of a distributor, retailer, cultivator, microbusiness, nonprofit, or other person required to be licensed to obtain security due to a lack of service providers or the policies of service providers that prohibit service to a cannabis business. A person may not commence or continue any business or operation relating to cannabis cultivation until any surety required by the board with respect to the business or operation has been properly prepared, executed, and submitted under this part.
(c) In fixing the amount of any security required by the board, the board shall give consideration to the financial hardship that may be imposed on licensees as a result of any shortage of available surety providers.

SECTION 34015 OF THE REVENUE AND TAXATION CODE IS AMENDED TO READ:

34015.
(a) Unless otherwise prescribed by the board pursuant to subdivision (c), the excise tax and cultivation tax imposed by this part is due and payable to the board quarterly on or before the last day of the month following each quarterly period of three months. On or before the last day of the month following each quarterly period, a return for the preceding quarterly period shall be filed with the board by each distributor using electronic media. Returns shall be authenticated in a form or pursuant to methods as may be prescribed by the board. If the cultivation tax is paid by stamp pursuant to subdivision (d) of Section 34012 the board may by regulation determine when and how the tax shall be paid.
(b) The board may require every person engaged in the cultivation, distribution, manufacturing, retail sale of cannabis or cannabis products, or any other person required to be licensed pursuant to Division 10 (commencing with Section 26000) of the Business and Professions Code to file, on or before the 25th day of each month, a report using electronic media respecting the person’s inventory, purchases, and sales during the preceding month and any other information as the board may require to carry out the purposes of this part. Reports shall be authenticated in a form or pursuant to methods as may be prescribed by the board.
(c) The board may adopt regulations prescribing the due date for returns and remittances of excise tax collected by a distributor in an arm’s length transaction pursuant to subdivision (b) of Section 34011.
(d) The board may make examinations of the books and records of any person licensed, or required to be licensed, pursuant to Division 10 (commencing with Section 26000) of the Business and Professions Code, as it may deem necessary in carrying out this part.
SECTION 34016 OF THE REVENUE AND TAXATION CODE IS AMENDED TO READ:

34016.  
(a) Any peace officer or board employee granted limited peace officer status pursuant to paragraph (6) of subdivision (a) of Section 830.11 of the Penal Code, upon presenting appropriate credentials, is authorized to enter any place as described in paragraph (3) and to conduct inspections in accordance with the following paragraphs, inclusive.  
(1) Inspections shall be performed in a reasonable manner and at times that are reasonable under the circumstances, taking into consideration the normal business hours of the place to be entered.  
(2) Inspections may be at any place at which cannabis or cannabis products are sold to purchasers, cultivated, or stored, or at any site where evidence of activities involving evasion of tax may be discovered.  
(3) Inspections shall be conducted no more than once in a 24-hour period.  
(b) Any person who fails or refuses to allow an inspection shall be guilty of a misdemeanor. Each offense shall be punished by a fine not to exceed five thousand dollars ($5,000), or imprisonment not exceeding one year in a county jail, or both the fine and imprisonment. The court shall order any fines assessed be deposited in the California Cannabis Tax Fund.  
(c) Upon discovery by the board or a law enforcement agency that a licensee or any other person possesses, stores, owns, or has made a retail sale of cannabis or cannabis products, without evidence of tax payment or not contained in secure packaging, the board or the law enforcement agency shall be authorized to seize the cannabis or cannabis products. Any cannabis or cannabis products seized by a law enforcement agency or the board shall within seven days be deemed forfeited and the board shall comply with the procedures set forth in Sections 30436 through 30449, inclusive.  
(d) Any person who renders a false or fraudulent report is guilty of a misdemeanor and subject to a fine not to exceed one thousand dollars ($1,000) for each offense.  
(e) Any violation of any provisions of this part, except as otherwise provided, is a misdemeanor and is punishable as such.  
(f) All moneys remitted to the board under this part shall be credited to the California Cannabis Tax Fund.  

34017.  
The Legislative Analyst’s Office shall submit a report to the Legislature by January 1, 2020, with recommendations to the Legislature for adjustments to the tax rate to achieve the goals of undercutting illicit market prices and discouraging use by persons younger than 21 years of age while ensuring sufficient revenues are generated for the programs identified in Section 34019.  

SECTION 34018 OF THE REVENUE AND TAXATION CODE IS AMENDED TO READ:

34018.  
(a) The California Cannabis Tax Fund is hereby created in the State Treasury. The Tax Fund shall consist of all taxes, interest, penalties, and other amounts collected and paid to the board pursuant to this part, less payment of refunds.  
(b) Notwithstanding any other law, the California Cannabis Tax Fund is a special trust fund established solely to carry out the purposes of the Control, Regulate and Tax Adult Use of Marijuana Act and all revenues deposited into the Tax Fund, together with interest or dividends earned by the fund, are hereby continuously appropriated for the purposes of the Control, Regulate and Tax Adult Use of Marijuana Act without regard to fiscal year and shall be expended only in accordance with the provisions of this part and its purposes.  
(c) Notwithstanding any other law, the taxes imposed by this part and the revenue derived therefrom, including investment interest, shall not be considered to be part of the General Fund, as that term is used in Chapter 1 (commencing with Section 16300) of Part 2 of Division 4 of the Government Code, shall not be considered General Fund revenue for purposes of Section 8 of Article XVI of the
SECTION 34019 OF THE REVENUE AND TAXATION CODE IS AMENDED TO READ:

34019. (a) Beginning with the 2017–18 fiscal year, the Department of Finance shall estimate revenues to be received pursuant to Sections 34011 and 34012 and provide those estimates to the Controller no later than June 15 of each year. The Controller shall use these estimates when disbursing funds pursuant to this section. Before any funds are disbursed pursuant to subdivisions (b), (c), (d), and (e) of this section, the Controller shall disburse from the Tax Fund to the appropriate account, without regard to fiscal year, the following:

1. Reasonable costs incurred by the board for administering and collecting the taxes imposed by this part; provided, however, such costs shall not exceed 4 percent of tax revenues received.

2. Reasonable costs incurred by the bureau, the Department of Consumer Affairs, the Department of Food and Agriculture, and the State Department of Public Health for implementing, administering, and enforcing Division 10 (commencing with Section 26000) of the Business and Professions Code to the extent those costs are not reimbursed pursuant to Section 26180 of the Business and Professions Code. This paragraph shall remain operative through the 2022–23 fiscal year.

3. Reasonable costs incurred by the Department of Fish and Wildlife, the State Water Resources Control Board, and the Department of Pesticide Regulation for carrying out their respective duties under Division 10 (commencing with Section 26000) of the Business and Professions Code to the extent those costs are not otherwise reimbursed.

4. Reasonable costs incurred by the Controller for performing duties imposed by the Control, Regulate and Tax Adult Use of Marijuana Act, including the audit required by Section 34020.

5. Reasonable costs incurred by the Department of Finance for conducting the performance audit pursuant to Section 26191 of the Business and Professions Code.

6. Reasonable costs incurred by the Legislative Analyst's Office for performing duties imposed by Section 34017.

7. Sufficient funds to reimburse the Division of Labor Standards Enforcement and the Division of Occupational Safety and Health within the Department of Industrial Relations and the Employment Development Department for the costs of applying and enforcing state labor laws to licensees under Division 10 (commencing with Section 26000) of the Business and Professions Code.

(b) The Controller shall next disburse the sum of ten million dollars ($10,000,000) to a public university or universities in California annually beginning with the 2018–19 fiscal year until the 2028–29 fiscal year to research and evaluate the implementation and effect of the Control, Regulate and Tax Adult Use of Marijuana Act, and shall, if appropriate, make recommendations to the Legislature and Governor regarding possible amendments to the Control, Regulate and Tax Adult Use of Marijuana Act. The recipients of these funds shall publish reports on their findings at a minimum of every two years and shall make the reports available to the public. The bureau shall select the universities to be funded. The research funded pursuant to this subdivision shall include but not necessarily be limited to:

1. Impacts on public health, including health costs associated with cannabis use, as well as whether cannabis use is associated with an increase or decrease in use of alcohol or other drugs.

2. The impact of treatment for maladaptive cannabis use and the effectiveness of different treatment programs.

3. Public safety issues related to cannabis use, including studying the effectiveness of the packaging and labeling requirements and advertising and marketing restrictions contained in the act at preventing underage access to and use of cannabis and cannabis products, and studying the health-related effects among users of varying potency levels of cannabis and cannabis products.
(4) Cannabis use rates, maladaptive use rates for adults and youth, and diagnosis rates of cannabis-related substance use disorders.

(5) Cannabis market prices, illicit market prices, tax structures and rates, including an evaluation of how to best tax cannabis based on potency, and the structure and function of licensed cannabis businesses.

(6) Whether additional protections are needed to prevent unlawful monopolies or anti-competitive behavior from occurring in the adult-use cannabis industry and, if so, recommendations as to the most effective measures for preventing such behavior.

(7) The economic impacts in the private and public sectors, including, but not necessarily limited to, job creation, workplace safety, revenues, taxes generated for state and local budgets, and criminal justice impacts, including, but not necessarily limited to, impacts on law enforcement and public resources, short and long term consequences of involvement in the criminal justice system, and state and local government agency administrative costs and revenue.

(8) Whether the regulatory agencies tasked with implementing and enforcing the Control, Regulate and Tax Adult Use of Marijuana Act are doing so consistent with the purposes of the act, and whether different agencies might do so more effectively.

(9) Environmental issues related to cannabis production and the criminal prohibition of cannabis production.

(10) The geographic location, structure, and function of licensed cannabis businesses, and demographic data, including race, ethnicity, and gender, of license holders.

(11) The outcomes achieved by the changes in criminal penalties made under the Control, Regulate and Tax Adult Use of Marijuana Act for cannabis-related offenses, and the outcomes of the juvenile justice system, in particular, probation-based treatments and the frequency of up-charging illegal possession of cannabis or cannabis products to a more serious offense.

(c) The Controller shall next disburse the sum of three million dollars ($3,000,000) annually to the Department of the California Highway Patrol beginning with the 2018–19 fiscal year until the 2022–23 fiscal year to establish and adopt protocols to determine whether a driver is operating a vehicle while impaired, including impairment by the use of cannabis or cannabis products, and to establish and adopt protocols setting forth best practices to assist law enforcement agencies. The department may hire personnel to establish the protocols specified in this subdivision. In addition, the department may make grants to public and private research institutions for the purpose of developing technology for determining when a driver is operating a vehicle while impaired, including impairment by the use of cannabis or cannabis products.

(d) The Controller shall next disburse the sum of ten million dollars ($10,000,000) beginning with the 2018–19 fiscal year and increasing ten million dollars ($10,000,000) each fiscal year thereafter until the 2022–23 fiscal year, at which time the disbursement shall be fifty million dollars ($50,000,000) each year thereafter, to the Governor’s Office of Business and Economic Development, in consultation with the Labor and Workforce Development Agency and the State Department of Social Services, to administer a community reinvestments grants program to local health departments and at least 50 percent to qualified community-based nonprofit organizations to support job placement, mental health treatment, substance use disorder treatment, system navigation services, legal services to address barriers to reentry, and linkages to medical care for communities disproportionately affected by past federal and state drug policies. The office shall solicit input from community-based job skills, job placement, and legal service providers with relevant expertise as to the administration of the grants program. In addition, the office shall periodically evaluate the programs it is funding to determine the effectiveness of the programs, shall not spend more than 4 percent for administrative costs related to implementation, evaluation, and oversight of the programs, and shall award grants annually, beginning no later than January 1, 2020.

(e) The Controller shall next disburse the sum of two million dollars ($2,000,000) annually to the University of California San Diego Center for Medicinal Cannabis Research to further the objectives of the center, including the enhanced understanding of the efficacy and adverse effects of cannabis as a pharmacological agent.

(f) By July 15 of each fiscal year beginning in the 2018–19 fiscal year, the Controller shall, after disbursing funds pursuant to subdivisions (a), (b), (c), (d), and (e), disburse funds deposited in the Tax Fund during the prior fiscal year into sub-trust accounts, which are hereby created, as follows:
Sixty percent shall be deposited in the Youth Education, Prevention, Early Intervention and Treatment Account, and disbursed by the Controller to the State Department of Health Care Services for programs for youth that are designed to educate about and to prevent substance use disorders and to prevent harm from substance use. The State Department of Health Care Services shall enter into interagency agreements with the State Department of Public Health and the State Department of Education to implement and administer these programs. The programs shall emphasize accurate education, effective prevention, early intervention, school retention, and timely treatment services for youth, their families and caregivers. The programs may include, but are not limited to, the following components:

(A) Prevention and early intervention services including outreach, risk survey and education to youth, families, caregivers, schools, primary care health providers, behavioral health and substance use disorder service providers, community and faith-based organizations, foster care providers, juvenile and family courts, and others to recognize and reduce risks related to substance use, and the early signs of problematic use and of substance use disorders.

(B) Grants to schools to develop and support student assistance programs, or other similar programs, designed to prevent and reduce substance use, and improve school retention and performance, by supporting students who are at risk of dropping out of school and promoting alternatives to suspension or expulsion that focus on school retention, remediation, and professional care. Schools with higher than average dropout rates should be prioritized for grants.

(C) Grants to programs for outreach, education, and treatment for homeless youth and out-of-school youth with substance use disorders.

(D) Access and linkage to care provided by county behavioral health programs for youth, and their families and caregivers, who have a substance use disorder or who are at risk for developing a substance use disorder.

(E) Youth-focused substance use disorder treatment programs that are culturally and gender competent, trauma-informed, evidence-based and provide a continuum of care that includes screening and assessment (substance use disorder as well as mental health), early intervention, active treatment, family involvement, case management, overdose prevention, prevention of communicable diseases related to substance use, relapse management for substance use and other co-occurring behavioral health disorders, vocational services, literacy services, parenting classes, family therapy and counseling services, medication-assisted treatments, psychiatric medication and psychotherapy. When indicated, referrals must be made to other providers.

(F) To the extent permitted by law and where indicated, interventions shall utilize a two-generation approach to addressing substance use disorders with the capacity to treat youth and adults together. This would include supporting the development of family-based interventions that address substance use disorders and related problems within the context of families, including parents, foster parents, caregivers and all their children.

(G) Programs to assist individuals, as well as families and friends of drug using young people, to reduce the stigma associated with substance use including being diagnosed with a substance use disorder or seeking substance use disorder services. This includes peer-run outreach and education to reduce stigma, anti-stigma campaigns, and community recovery networks.

(H) Workforce training and wage structures that increase the hiring pool of behavioral health staff with substance use disorder prevention and treatment expertise. Provide ongoing education and coaching that increases substance use treatment providers’ core competencies and trains providers on promising and evidenced-based practices.

(I) Construction of community-based youth treatment facilities.

(J) The departments may contract with each county behavioral health program for the provision of services.

(K) Funds shall be allocated to counties based on demonstrated need, including the number of youth in the county, the prevalence of substance use disorders among adults, and...
confirmed through statistical data, validated assessments, or submitted reports prepared by the applicable county to demonstrate and validate need.

(L) The departments shall periodically evaluate the programs they are funding to determine the effectiveness of the programs.

(M) The departments may use up to 4 percent of the moneys allocated to the Youth Education, Prevention, Early Intervention and Treatment Account for administrative costs related to implementation, evaluation, and oversight of the programs.

(N) If the Department of Finance ever determines that funding pursuant to cannabis taxation exceeds demand for youth prevention and treatment services in the state, the departments shall provide a plan to the Department of Finance to provide treatment services to adults as well as youth using these funds.

(O) The departments shall solicit input from volunteer health organizations, physicians who treat addiction, treatment researchers, family therapy and counseling providers, and professional education associations with relevant expertise as to the administration of any grants made pursuant to this paragraph.

(2) Twenty percent shall be deposited in the Environmental Restoration and Protection Account, and disbursed by the Controller as follows:

(A) To the Department of Fish and Wildlife and the Department of Parks and Recreation for the cleanup, remediation, and restoration of environmental damage in watersheds affected by cannabis cultivation and related activities including, but not limited to, damage that occurred prior to enactment of this part, and to support local partnerships for this purpose. The Department of Fish and Wildlife and the Department of Parks and Recreation may distribute a portion of the funds they receive from the Environmental Restoration and Protection Account through grants for purposes specified in this paragraph.

(B) To the Department of Fish and Wildlife and the Department of Parks and Recreation for the stewardship and operation of state-owned wildlife habitat areas and state park units in a manner that discourages and prevents the illegal cultivation, production, sale, and use of cannabis and cannabis products on public lands, and to facilitate the investigation, enforcement, and prosecution of illegal cultivation, production, sale, and use of cannabis or cannabis products on public lands.

(C) To the Department of Fish and Wildlife to assist in funding the watershed enforcement program and multiagency taskforce established pursuant to subdivisions (b) and (c) of Section 12029 of the Fish and Game Code to facilitate the investigation, enforcement, and prosecution of these offenses and to ensure the reduction of adverse impacts of cannabis cultivation, production, sale, and use on fish and wildlife habitats throughout the state.

(D) For purposes of this paragraph, the Secretary of the Natural Resources Agency shall determine the allocation of revenues between the departments. During the first five years of implementation, first consideration should be given to funding purposes specified in subparagraph (A).

(E) Funds allocated pursuant to this paragraph shall be used to increase and enhance activities described in subparagraphs (A), (B), and (C), and not replace allocation of other funding for these purposes. Accordingly, annual General Fund appropriations to the Department of Fish and Wildlife and the Department of Parks and Recreation shall not be reduced below the levels provided in the Budget Act of 2014 (Chapter 25 of the Statutes of 2014).

(3) Twenty percent shall be deposited into the State and Local Government Law Enforcement Account and disbursed by the Controller as follows:

(A) To the Department of the California Highway Patrol for conducting training programs for detecting, testing and enforcing laws against driving under the influence of alcohol and other drugs, including driving under the influence of cannabis. The department may hire personnel to conduct the training programs specified in this subparagraph.

(B) To the Department of the California Highway Patrol to fund internal California Highway Patrol programs and grants to qualified nonprofit organizations and local governments for education, prevention, and enforcement of laws related to driving under the influence of alcohol and other drugs, including cannabis; programs that help enforce traffic laws,
educate the public in traffic safety, provide varied and effective means of reducing fatalities, injuries, and economic losses from collisions; and for the purchase of equipment related to enforcement of laws related to driving under the influence of alcohol and other drugs, including cannabis.

(C) To the Board of State and Community Corrections for making grants to local governments to assist with law enforcement, fire protection, or other local programs addressing public health and safety associated with the implementation of the Control, Regulate and Tax Adult Use of Marijuana Act. The board shall not make any grants to local governments which have banned the cultivation, including personal cultivation under paragraph (3) of subdivision (b) of Section 11362.2 of the Health and Safety Code, or retail sale of cannabis or cannabis products pursuant to Section 26200 of the Business and Professions Code or as otherwise provided by law.

(D) For purposes of this paragraph, the Department of Finance shall determine the allocation of revenues between the agencies; provided, however, beginning in the 2022–23 fiscal year the amount allocated pursuant to subparagraph (A) shall not be less than ten million dollars ($10,000,000) annually and the amount allocated pursuant to subparagraph (B) shall not be less than forty million dollars ($40,000,000) annually. In determining the amount to be allocated before the 2022–23 fiscal year pursuant to this paragraph, the Department of Finance shall give initial priority to subparagraph (A).

(g) Funds allocated pursuant to subdivision (f) shall be used to increase the funding of programs and purposes identified and shall not be used to replace allocation of other funding for these purposes.

(h) Effective July 1, 2028, the Legislature may amend this section by majority vote to further the purposes of the Control, Regulate and Tax Adult Use of Marijuana Act, including allocating funds to programs other than those specified in subdivisions (d) and (f). Any revisions pursuant to this subdivision shall not result in a reduction of funds to accounts established pursuant to subdivisions (d) and (f) in any subsequent year from the amount allocated to each account in the 2027–28 fiscal year. Prior to July 1, 2028, the Legislature may not change the allocations to programs specified in subdivisions (d) and (f).

34020.
The Controller shall periodically audit the Tax Fund to ensure that those funds are used and accounted for in a manner consistent with this part and as otherwise required by law.

34021.
The taxes imposed by this Part shall be in addition to any other tax imposed by a city, county, or city and county.

SECTION 34021.5 OF THE REVENUE AND TAXATION CODE IS AMENDED TO READ:

(a) (1) A county may impose a tax on the privilege of cultivating, manufacturing, producing, processing, preparing, storing, providing, donating, selling, or distributing cannabis or cannabis products by a licensee operating under Division 10 (commencing with Section 26000) of the Business and Professions Code.

(2) The board of supervisors shall specify in the ordinance proposing the tax the activities subject to the tax, the applicable rate or rates, the method of apportionment, if necessary, and the manner of collection of the tax. The tax may be imposed for general governmental purposes or for purposes specified in the ordinance by the board of supervisors.

(3) In addition to any other method of collection authorized by law, the board of supervisors may provide for the collection of the tax imposed pursuant to this section in the same manner, and subject to the same penalties and priority of lien, as other charges and taxes fixed and collected by the county. A tax imposed pursuant to this section is a tax and not a fee or special assessment. The board of supervisors shall specify whether the tax applies throughout the entire county or within the unincorporated area of the county.
(4) The tax authorized by this section may be imposed upon any or all of the activities set forth in paragraph (1), as specified in the ordinance, regardless of whether the activity is undertaken individually, collectively, or cooperatively, and regardless of whether the activity is for compensation or gratuitous, as determined by the board of supervisors.

(b) A tax imposed pursuant to this section shall be subject to applicable voter approval requirements imposed by law.

(c) This section is declaratory of existing law and does not limit or prohibit the levy or collection of any other fee, charge, or tax, or a license or service fee or charge upon, or related to, the activities set forth in subdivision (a) as otherwise provided by law. This section shall not be construed as a limitation upon the taxing authority of a county as provided by law.

(d) This section shall not be construed to authorize a county to impose a sales or use tax in addition to the sales and use taxes imposed under an ordinance conforming to the provisions of Sections 7202 and 7203 of this code.

SECTION 55044 OF THE REVENUE AND TAXATION CODE IS AMENDED TO READ:

55044.

(a) If the department finds that a person’s failure to make a timely return or payment is due to reasonable cause and circumstances beyond the person’s control, and occurred notwithstanding the exercise of ordinary care and the absence of willful neglect, the person may be relieved of the penalty provided by Sections 34013, 55042, 55050, and 55086.

(b) Except as provided in subdivision (c), any person seeking to be relieved of the penalty shall file with the department a statement, under penalty of perjury, setting forth the facts upon which he or she bases his or her claim for relief.

(c) The department shall establish criteria that provide for efficient resolution of requests for relief pursuant to this section.

VEHICLE CODE

SECTION 2429.7 IS ADDED TO THE VEHICLE CODE, TO READ:

2429.7.

(d) The commissioner shall appoint an impaired driving task force to develop recommendations for best practices, protocols, proposed legislation, and other policies that will address the issue of impaired driving, including driving under the influence of cannabis and controlled substances. The task force shall also examine the use of technology, including field testing technologies and validated field sobriety tests, to identify drivers under the influence of prescription drugs, cannabis, and controlled substances. The task force shall include, but is not limited to, the commissioner, who shall serve as chairperson, and at least one member from each of the following:

(1) The Office of Traffic Safety.
(3) Local law enforcement.
(4) District attorneys.
(5) Public defenders.
(6) California Association of Crime Laboratory Directors.
(7) California Attorneys for Criminal Justice.
(8) The California Cannabis Research Program, known as the Center for Medicinal Cannabis Research, authorized pursuant to Section 11362.9 of the Health and Safety Code.
(9) An organization that represents medicinal cannabis patients.
(10) Licensed physicians with expertise in substance abuse disorder treatment.
(11) Researchers with expertise in identifying impairment caused by prescription medications and controlled substances.
(12) Nongovernmental organizations committed to social justice issues.
(13) A nongovernmental organization that focuses on improving roadway safety.
(e) The members of the task force shall serve at the pleasure of the commissioner and without compensation.
(f) The task force members shall be free of economic relationships with any company that profits from the sale of technologies or equipment that is intended to identify impairment. Members and their organizations shall not receive pay from, grants from, or any form of financial support from companies or entities that sell such technologies or equipment.
(g) The task force shall make recommendations regarding prevention of impaired driving, means of identifying impaired driving, and responses to impaired driving that reduce reoccurrence, including, but not limited to, evidence-based approaches that do not rely on incarceration.
(h) The task force shall make recommendations regarding how to best capture data to evaluate the impact that cannabis legalization is having on roadway safety.
(i) By January 1, 2021, the task force shall report to the Legislature its policy recommendations and the steps state agencies are taking regarding impaired driving. The report shall be submitted in compliance with Section 9795 of the Government Code.

SECTION 23222 OF THE VEHICLE CODE IS AMENDED TO READ:

23222.
(a) No person shall have in his or her possession on his or her person, while driving a motor vehicle upon a highway or on lands, as described in subdivision (b) of Section 23220, any bottle, can, or other receptacle, containing any alcoholic beverage which has been opened, or a seal broken, or the contents of which have been partially removed.
(b) (1) Except as authorized by law, every person who has in his or her possession on his or her person, while driving a motor vehicle upon a highway or on lands, as described in subdivision (b) of Section 23220, any receptacle containing any cannabis or cannabis products, as defined by Section 11018.1 of the Health and Safety Code, which has been opened or has a seal broken, or loose cannabis flower not in a container, is guilty of an infraction punishable by a fine of not more than one hundred dollars ($100).
(2) Paragraph (1) does not apply to a person who has a receptacle containing cannabis or cannabis products that has been opened, has a seal broken, or the contents of which have been partially removed, or to a person who has loose cannabis flower not in a container, if the receptacle or loose cannabis flower not in a container is in the trunk of the vehicle.
(c) Subdivision (b) does not apply to a qualified patient or person with an identification card, as defined in Section 11362.7 of the Health and Safety Code, if both of the following apply:
(1) The person is carrying a current identification card or a physician’s recommendation.
(2) The cannabis or cannabis product is contained in a container or receptacle that is either sealed, resealed, or closed.

LABOR CODE

147.6
(a) By March 1, 2018, the Division of Occupational Safety and Health shall convene an advisory committee to evaluate whether there is a need to develop-industry-specific regulations related to the activities of licensees under Division 10 of the Business and Professions Code, including but not limited to, whether specific requirements are needed to address exposure to second-hand marijuana smoke by employees at facilities where on-site consumption of marijuana is permitted under subdivision (d) of Section 26200 of the Business and Professions Code, and whether specific requirements are needed to address the potential risks of combustion, inhalation, armed robberies or repetitive strain injuries.
(b) By October 1, 2018, the advisory committee shall present to the board its findings and recommendations for consideration by the board. By October 1, 2018, the board shall render a decision regarding the adoption of industry-specific regulations pursuant to this section.
WATER CODE

1058.5. (a) This section applies to any emergency regulation adopted by the board for which the board makes both of the following findings:

(1) The emergency regulation is adopted to prevent the waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion, of water, to promote water recycling or water conservation, to require curtailment of diversions when water is not available under the diverter’s priority of right, or in furtherance of any of the foregoing, to require reporting of diversion or use or the preparation of monitoring reports.

(2) The emergency regulation is adopted in response to conditions which exist, or are threatened, in a critically dry year immediately preceded by two or more consecutive below normal, dry, or critically dry years or during a period for which the Governor has issued a proclamation of a state of emergency under the California Emergency Services Act (Chapter 7 (commencing with Section 8550) of Division 1 of Title 2 of the Government Code) based on drought conditions.

(b) Notwithstanding Sections 11346.1 and 11349.6 of the Government Code, any findings of emergency adopted by the board, in connection with the adoption of an emergency regulation under this section, are not subject to review by the Office of Administrative Law.

(c) An emergency regulation adopted by the board under this section may remain in effect for up to 270 days, as determined by the board, and is deemed repealed immediately upon a finding by the board that due to changed conditions it is no longer necessary for the regulation to remain in effect. An emergency regulation adopted by the board under this section may be renewed if the board determines that the conditions specified in paragraph (2) of subdivision (a) are still in effect.

(d) In addition to any other applicable civil or criminal penalties, any person or entity who violates a regulation adopted by the board pursuant to this section is guilty of an infraction punishable by a fine of up to five hundred dollars ($500) for each day in which the violation occurs.

(e) (1) Notwithstanding subdivision (b) of Section 1551 or subdivision (e) of Section 1848, a civil liability imposed under Chapter 12 (commencing with Section 1825) of Part 2 of Division 2 by the board or a court for a violation of an emergency conservation regulation adopted pursuant to this section shall be deposited, and separately accounted for, in the Water Rights Fund. Funds deposited in accordance with this subdivision shall be available, upon appropriation, for water conservation activities and programs.

(2) For purposes of this subdivision, an “emergency conservation regulation” means an emergency regulation that requires an end user of water, a water retailer, or a water wholesaler to conserve water or report to the board on water conservation. Water conservation includes restrictions or limitations on particular uses of water or a reduction in the amount of water used or served, but does not include curtailment of diversions when water is not available under the diverter’s priority of right or reporting requirements related to curtailments.

1525. (a) Each person or entity who holds a permit or license to appropriate water, and each lessor of water leased under Chapter 1.5 (commencing with Section 1020) of Part 1, shall pay an annual fee according to a fee schedule established by the board.

(b) Each person or entity who files any of the following shall pay a fee according to a fee schedule established by the board:

(1) An application for a permit to appropriate water.

(2) A registration of appropriation for a small domestic use, small irrigation use, or livestock stockpond use.

(3) A petition for an extension of time within which to begin construction, to complete construction, or to apply the water to full beneficial use under a permit.

(4) A petition to change the point of diversion, place of use, or purpose of use, under a permit, license, or registration.

(5) A petition to change the conditions of a permit or license, requested by the permittee or licensee, that is not otherwise subject to paragraph (3) or (4).
(6) A petition to change the point of discharge, place of use, or purpose of use, of treated wastewater, requested pursuant to Section 1211.

(7) An application for approval of a water lease agreement.

(8) A request for release from priority pursuant to Section 10504.

(9) An application for an assignment of a state-filed application pursuant to Section 10504.

(10) A statement of water diversion and use pursuant to Part 5.1 (commencing with Section 5100) that reports that water was used for cannabis cultivation.

(c) The board shall set the fee schedule authorized by this section so that the total amount of fees collected pursuant to this section equals that amount necessary to recover costs incurred in connection with the issuance, administration, review, monitoring, and enforcement of permits, licenses, certificates, and registrations to appropriate water, water leases, statements of water diversion and use for cannabis cultivation, and orders approving changes in point of discharge, place of use, or purpose of use of treated wastewater. The board may include, as recoverable costs, but is not limited to including, the costs incurred in reviewing applications, registrations, statements of water diversion and use for cannabis cultivation, petitions and requests, prescribing terms of permits, licenses, registrations, and change orders, enforcing and evaluating compliance with permits, licenses, certificates, registrations, change orders, and water leases, inspection, monitoring, planning, modeling, reviewing documents prepared for the purpose of regulating the diversion and use of water, applying and enforcing the prohibition set forth in Section 1052 against the unauthorized diversion or use of water subject to this division and the water diversion related provisions of Article 6 (commencing with Section 19331) of Chapter 3.5 of Division 8 of the Business and Professions Code, and the administrative costs incurred in connection with carrying out these actions.

(d) (1) The board shall adopt the schedule of fees authorized under this section as emergency regulations in accordance with Section 1530.

(2) For filings subject to subdivision (b), the schedule may provide for a single filing fee or for an initial filing fee followed by an annual fee, as appropriate to the type of filing involved, and may include supplemental fees for filings that have already been made but have not yet been acted upon by the board at the time the schedule of fees takes effect.

(3) The board shall set the amount of total revenue collected each year through the fees authorized by this section at an amount equal to the amounts appropriated by the Legislature for expenditure for support of water rights program activities from the Water Rights Fund established under Section 1550, taking into account the reserves in the Water Rights Fund. The board shall review and revise the fees each fiscal year as necessary to conform with the amounts appropriated. If the board determines that the revenue collected during the preceding year was greater than, or less than, the amounts appropriated, the board may further adjust the annual fees to compensate for the over or under collection of revenue.

(e) Annual fees imposed pursuant to this section for the 2003–04 fiscal year shall be assessed for the entire 2003–04 fiscal year.

1535.

(a) Any fee subject to this chapter that is required in connection with the filing of an application, registration, request, statement, or proof of claim, other than an annual fee required after the period covered by the initial filing fee, shall be paid to the board.

(b) If a fee established under subdivision (b) of Section 1525, Section 1528, or Section 13160.1 is not paid when due, the board may cancel the application, registration, petition, request, statement, or claim, or may refer the matter to the State Board of Equalization for collection of the unpaid fee.

1552.

Except as provided in subdivision (e) of Section 1058.5, moneys in the Water Rights Fund are available for expenditure, upon appropriation by the Legislature, for the following purposes:

(a) For expenditure by the State Board of Equalization in the administration of this chapter and the Fee Collection Procedures Law (Part 30 (commencing with Section 55001) of Division 2 of the Revenue and Taxation Code) in connection with any fee or expense subject to this chapter.

(b) For the payment of refunds, pursuant to Part 30 (commencing with Section 55001) of Division 2 of the Revenue and Taxation Code, of fees or expenses collected pursuant to this chapter.
(c) For expenditure by the board for the purposes of carrying out this division, Division 1 (commencing with Section 100), Part 2 (commencing with Section 10500) and Chapter 11 (commencing with Section 10735) of Part 2.74 of Division 6, Article 7 (commencing with Section 13550) of Chapter 7 of Division 7, and the water diversion related provisions of Article 6 (commencing with Section 19331) of Chapter 3.5 of Division 8 of the Business and Professions Code.

(d) For expenditures by the board for the purposes of carrying out Sections 13160 and 13160.1 in connection with activities involving hydroelectric power projects subject to licensing by the Federal Energy Regulatory Commission.

(e) For expenditures by the board for the purposes of carrying out Sections 13140 and 13170 in connection with plans and policies that address the diversion or use of water.

SECTION 1831 OF THE WATER CODE IS AMENDED TO READ:

1831.

(a) When the board determines that any person is violating, or threatening to violate, any requirement described in subdivision (d), the board may issue an order to that person to cease and desist from that violation.

(b) The cease and desist order shall require that person to comply forthwith or in accordance with a time schedule set by the board.

(c) The board may issue a cease and desist order only after notice and an opportunity for hearing pursuant to Section 1834.

(d) The board may issue a cease and desist order in response to a violation or threatened violation of any of the following:

1. The prohibition set forth in Section 1052 against the unauthorized diversion or use of water subject to this division.

2. Any term or condition of a permit, license, certification, or registration issued under this division.

3. Any decision or order of the board issued under this part, Section 275, Chapter 11 (commencing with Section 10735) of Part 2.74 of Division 6, or Article 7 (commencing with Section 13550) of Chapter 7 of Division 7, in which decision or order the person to whom the cease and desist order will be issued, or a predecessor in interest to that person, was named as a party directly affected by the decision or order.

4. A regulation adopted under Section 1058.5.

5. Any extraction restriction, limitation, order, or regulation adopted or issued under Chapter 11 (commencing with Section 10735) of Part 2.74 of Division 6.

6. Any diversion or use of water for cannabis cultivation if any of paragraphs (1) to (5), inclusive, or any of the following applies:

   A. A license is required, but has not been obtained, under Chapter 6 (commencing with Section 26060) or Chapter 7 (commencing with Section 26070) of Division 10 of the Business and Professions Code.

   B. The diversion is not in compliance with an applicable limitation or requirement established by the board or the Department of Fish and Wildlife under Section 13149.

   C. The diversion or use is not in compliance with a requirement imposed under paragraphs (1) and (2) of subdivision (b) of Section 26060.1 of, and paragraph (3) of subdivision (a) of Section 26070 of, the Business and Professions Code.

(e) This article does not alter the regulatory authority of the board under other provisions of law.

1840.

(a) (1) Except as provided in subdivision (b), a person who, on or after January 1, 2016, diverts 10 acre-feet of water per year or more under a permit or license shall install and maintain a device or employ a method capable of measuring the rate of direct diversion, rate of collection to storage, and rate of withdrawal or release from storage. The measurements shall be made using the best available technologies and best professional practices, as defined in Section 5100, using a device or methods satisfactory to the board, as follows:
(A) A device shall be capable of continuous monitoring of the rate and quantity of water diverted and shall be properly maintained. The permittee or licensee shall provide the board with evidence that the device has been installed with the first report submitted after installation of the device. The permittee or licensee shall provide the board with evidence demonstrating that the device is functioning properly as part of the reports submitted at five-year intervals after the report documenting installation of the device, or upon request of the board.

(B) In developing regulations pursuant to Section 1841, the board shall consider devices and methods that provide accurate measurement of the total amount diverted and the rate of diversion. The board shall consider devices and methods that provide accurate measurements within an acceptable range of error, including the following:

(i) Electricity records dedicated to a pump and recent pump test.
(ii) Staff gage calibrated with an acceptable streamflow rating curve.
(iii) Staff gage calibrated for a flume or weir.
(iv) Staff gage calibrated with an acceptable storage capacity curve.
(v) Pressure transducer and acceptable storage capacity curve.

(2) The permittee or licensee shall maintain a record of all diversion monitoring that includes the date, time, and diversion rate at time intervals of one hour or less, and the total amount of water diverted. These records shall be included with reports submitted under the permit or license, as required under subdivision (c), or upon request of the board.

(b) (1) The board may modify the requirements of subdivision (a) upon finding either of the following:

(A) That strict compliance is infeasible, is unreasonably expensive, would unreasonably affect public trust uses, or would result in the waste or unreasonable use of water.

(B) That the need for monitoring and reporting is adequately addressed by other conditions of the permit or license.

(2) The board may increase the 10-acre-foot reporting threshold of subdivision (a) in a watershed or subwatershed, after considering the diversion reporting threshold in relation to quantity of water within the watershed or subwatershed. The board may increase the 10-acre-foot reporting threshold to 25 acre-feet or above if it finds that the benefits of the additional information within the watershed or subwatershed are substantially outweighed by the cost of installing measuring devices or employing methods for measurement for diversions at the 10-acre-foot threshold.

(c) At least annually, a person who diverts water under a registration, permit, or license shall report to the board the following information:

(1) The quantity of water diverted by month.
(2) The maximum rate of diversion by months in the preceding calendar year.
(3) The information required by subdivision (a), if applicable.
(4) The amount of water used, if any, for cannabis cultivation.

(d) Compliance with the applicable requirements of this section is a condition of every registration, permit, or license.

1845.

(a) Upon the failure of any person to comply with a cease and desist order issued by the board pursuant to this chapter, the Attorney General, upon the request of the board, shall petition the superior court for the issuance of prohibitory or mandatory injunctive relief as appropriate, including a temporary restraining order, preliminary injunction, or permanent injunction.

(b) (1) A person or entity who violates a cease and desist order issued pursuant to this chapter may be liable in an amount not to exceed the following:

(A) If the violation occurs in a critically dry year immediately preceded by two or more consecutive below normal, dry, or critically dry years or during a period for which the Governor has issued a proclamation of a state of emergency under the California Emergency Services Act (Chapter 7 (commencing with Section 8550) of Division 1 of Title 2 of the Government Code) based on drought conditions, ten thousand dollars ($10,000) for each day in which the violation occurs.

(B) If the violation is not described by subparagraph (A), one thousand dollars ($1,000) for each day in which the violation occurs.

(2) Civil liability may be imposed by the superior court. The Attorney General, upon the request of the board, shall petition the superior court to impose, assess, and recover those sums.
(3) Civil liability may be imposed administratively by the board pursuant to Section 1055.

1846. 
(a) A person or entity may be liable for a violation of any of the following in an amount not to exceed five hundred dollars ($500) for each day in which the violation occurs:
   (1) A term or condition of a permit, license, certificate, or registration issued under this division.
   (2) A regulation or order adopted by the board.
(b) Civil liability may be imposed by the superior court. The Attorney General, upon the request of the board, shall petition the superior court to impose, assess, and recover those sums.
(c) Civil liability may be imposed administratively by the board pursuant to Section 1055.

SECTION 1847 OF THE WATER CODE IS AMENDED TO READ:

1847. 
(a) A person or entity may be liable for a violation of any of the requirements of subdivision (b) in an amount not to exceed the sum of the following:
   (1) Five hundred dollars ($500), plus two hundred fifty dollars ($250) for each additional day on which the violation continues if the person fails to correct the violation within 30 days after the board has called the violation to the attention of that person.
   (2) Two thousand five hundred dollars ($2,500) for each acre-foot of water diverted or used in violation of the applicable requirement.
(b) Liability may be imposed for any of the following violations:
   (1) Violation of a principle, guideline, or requirement established by the board or the Department of Fish and Wildlife under Section 13149.
   (2) Failure to submit information, or making a material misstatement in information submitted, under Section 26060.1 of the Business and Professions Code.
   (3) Violation of any requirement imposed under subdivision (b) of Section 26060.1 of the Business and Professions Code.
   (4) Diversion or use of water for cannabis cultivation for which a license is required, but has not been obtained, under Chapter 6 (commencing with Section 26060) or Chapter 7 (commencing with Section 26070) of Division 10 of the Business and Professions Code.
(c) Civil liability may be imposed by the superior court. The Attorney General, upon the request of the board, shall petition the superior court to impose, assess, and recover those sums.
(d) Civil liability may be imposed administratively by the board pursuant to Section 1055.

1848. 
(a) Except as provided in subdivisions (b) and (c), remedies under this chapter are in addition to, and do not supersede or limit, any other remedy, civil or criminal.
(b) Civil liability shall not be imposed both administratively and by the superior court for the same violation.
(c) No liability shall be recoverable under Section 1846 or 1847 for a violation for which liability is recovered under Section 1052.
(d) In determining the appropriate amount, the court, or the board, as the case may be, shall take into consideration all relevant circumstances, including, but not limited to, the extent of harm caused by the violation, the nature and persistence of the violation, the length of time over which the violation occurs, and the corrective action, if any, taken by the violator.
(e) All funds recovered pursuant to this article shall be deposited in the Water Rights Fund established pursuant to Section 1550.

5103. 
Each statement shall be prepared on a form provided by the board. The statement shall include all of the following information:
(a) The name and address of the person who diverted water and of the person filing the statement.
(b) The name of the stream or other source from which water was diverted, and the name of the next major stream or other body of water to which the source is tributary.

(c) The place of diversion. The location of the diversion works shall be depicted on a specific United States Geological Survey topographic map, or shall be identified using the California Coordinate System, or latitude and longitude measurements. If assigned, the public land description to the nearest 40-acre subdivision and the assessor’s parcel number shall also be provided.

(d) The capacity of the diversion works and of the storage reservoir, if any, and the months in which water was used during the preceding calendar year.

(e) (1) (A) At least monthly records of water diversions. The measurements of the diversion shall be made in accordance with Section 1840.

(B) (i) On and after July 1, 2016, the measurement of a diversion of 10 acre-feet or more per year shall comply with regulations adopted by the board pursuant to Article 3 (commencing with Section 1840) of Chapter 12 of Part 2.

(ii) The requirement of clause (i) is extended to January 1, 2017, for any statement filer that enters into a voluntary agreement that is acceptable to the board to reduce the statement filer’s diversions during the 2015 irrigation season.

(2) (A) The terms of, and eligibility for, any grant or loan awarded or administered by the department, the board, or the California Bay-Delta Authority on behalf of a person that is subject to paragraph (1) shall be conditioned on compliance with that paragraph.

(B) Notwithstanding subparagraph (A), the board may determine that a person is eligible for a grant or loan even though the person is not complying with paragraph (1), if both of the following apply:

(i) The board determines that the grant or loan will assist the grantee or loan recipient in complying with paragraph (1).

(ii) The person has submitted to the board a one-year schedule for complying with paragraph (1).

(C) It is the intent of the Legislature that the requirements of this subdivision shall complement and not affect the scope of authority granted to the board by provisions of law other than this article.

(e) (1) The purpose of use.

(2) The amount of water used, if any, for cannabis cultivation.

(f) A general description of the area in which the water was used. The location of the place of use shall be depicted on a specific United States Geological Survey topographic map and on any other maps with identifiable landmarks. If assigned, the public land description to the nearest 40-acre subdivision and the assessor’s parcel number shall also be provided.

(g) The year in which the diversion was commenced as near as is known.

13149.

(a) (1) (A) The board, in consultation with the Department of Fish and Wildlife, shall adopt principles and guidelines for diversion and use of water for cannabis cultivation in areas where cannabis cultivation may have the potential to substantially affect instream flows. The principles and guidelines adopted under this section may include, but are not limited to, instream flow objectives, limits on diversions, and requirements for screening of diversions and elimination of barriers to fish passage. The principles and guidelines may include requirements that apply to groundwater extractions where the board determines those requirements are reasonably necessary for purposes of this section.

(B) Prior to adopting principles and guidelines under this section, the board shall allow for public comment and hearing, pursuant to Section 13147. The board shall provide an opportunity for the public to review and comment on the proposal for at least 60 days and shall consider the public comments before adopting the principles and guidelines.

(2) The board, in consultation with the Department of Fish and Wildlife, shall adopt principles and guidelines pending the development of long-term principles and guidelines under paragraph (1). The principles and guidelines, including the interim principles and guidelines, shall include measures to protect springs, wetlands, and aquatic habitats from negative impacts of cannabis.
cultivation. The board may update the interim principles and guidelines as it determines to be reasonably necessary for purposes of this section.

(3) The Department of Fish and Wildlife, in consultation with the board, may establish interim requirements to protect fish and wildlife from the impacts of diversions for cannabis cultivation pending the adoption of long-term principles and guidelines by the board under paragraph (1). The requirements may also include measures to protect springs, wetlands, and aquatic habitats from negative impacts of cannabis cultivation.

(b) (1) Notwithstanding Section 15300.2 of Title 14 of the California Code of Regulations, actions of the board and the Department of Fish and Wildlife under this section shall be deemed to be within Section 15308 of Title 14 of the California Code of regulations, provided that those actions do not involve relaxation of existing streamflow standards.

(2) The board shall adopt principles and guidelines under this section as part of state policy for water quality control adopted pursuant to Article 3 (commencing with Section 13140) of Chapter 3 of Division 7.

(3) If the Department of Fish and Wildlife establishes interim requirements under this section, it shall do so as emergency regulations in accordance with Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code. The adoption of those interim requirements is an emergency and shall be considered by the Office of Administrative Law as necessary for the immediate preservation of the public health, safety, and general welfare. Notwithstanding Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code, the emergency regulations shall remain in effect until revised by the Department of Fish and Wildlife, provided that the emergency regulations shall not apply after long-term principles and guidelines adopted by the board under this section take effect for the stream or other body of water where the diversion is located.

(4) A diversion for cannabis cultivation is subject to both the interim principles and guidelines and the interim requirements in the period before final principles and guidelines are adopted by the board.

(5) The board shall have primary enforcement responsibility for principles and guidelines adopted under this section, and shall notify the Department of Food and Agriculture of any enforcement action taken.

SECTION 13276 OF THE WATER CODE IS AMENDED TO READ:

13276.
(a) The multiagency task force, the Department of Fish and Wildlife and state board pilot project to address the Environmental Impacts of Cannabis Cultivation, assigned to respond to the damages caused by cannabis cultivation on public and private lands in California, shall continue its enforcement efforts on a permanent basis and expand them to a statewide level to ensure the reduction of adverse impacts of cannabis cultivation on water quality and on fish and wildlife throughout the state.

(b) The state board or the appropriate regional board shall address discharges of waste resulting from cannabis cultivation under Division 10 of the Business and Professions Code and associated activities, including by adopting a general permit, establishing waste discharge requirements, or taking action pursuant to Section 13269. In addressing these discharges, the state board or the regional board shall include conditions to address items that include, but are not limited to, all of the following:

(1) Site development and maintenance, erosion control, and drainage features.
(2) Stream crossing installation and maintenance.
(3) Riparian and wetland protection and management.
(4) Soil disposal.
(5) Water storage and use.
(6) Irrigation runoff.
(7) Fertilizers and soil.
(8) Pesticides and herbicides.
(9) Petroleum products and other chemicals.
(10) Cultivation-related waste.
(11) Refuse and human waste.
(12) Cleanup, restoration, and mitigation.

The amount of three million dollars ($3,000,000) is hereby appropriated from the Cannabis Control Fund to the Department of the California Highway Patrol to be used to for training drug recognition experts. Program costs may include, but are not limited to, training, overtime, and backfill of state and local law enforcement officers to attend training.

The provisions of this act are severable. If any provision of this act or its application is held invalid, that invalidity shall not affect other provisions or applications that can be given effect without the invalid provision or application.

The Legislature finds and declares that Sections 58 and 93 of this act, which add Sections 26067 and 26162 to the Business and Professions Code, impose a limitation on the public’s right of access to the meetings of public bodies or the writings of public officials and agencies within the meaning of Section 3 of Article I of the California Constitution. Pursuant to that constitutional provision, the Legislature makes the following findings to demonstrate the interest protected by this limitation and the need for protecting that interest:

In order to protect public safety and prevent the diversion of cannabis to the illegal market, it is necessary for that information to be confidential.

No reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution for certain costs that may be incurred by a local agency or school district because, in that regard, this act creates a new crime or infraction, eliminates a crime or infraction, or changes the definition of a crime within the meaning of Section 6 of Article XIII B of the California Constitution. However, if the Commission on State Mandates determines that this act contains other costs mandated by the state, reimbursement to local agencies and school districts for those costs shall be made pursuant to Part 7 (commencing with Section 17500) of Division 4 of Title 2 of the Government Code.

The Legislature finds and declares that this act furthers the purposes and intent of the Control, Regulate and Tax Adult Use of Marijuana Act by accomplishing all of the following:

(a) Taking adult-use cannabis production and sales out of the hands of the illegal market and bringing them under a regulatory structure that prevents access by minors and protects public safety, public health, and the environment.
(b) Strictly controlling the cultivation, processing, manufacture, distribution, testing, and sale of adult-use cannabis through a system of state licensing, regulation, and enforcement.
(c) Allowing local governments to enforce state laws and regulations for adult-use cannabis businesses if that authority is delegated to them by the state, and enact additional local requirements for adult-use cannabis businesses, but not require that they do so for an adult-use cannabis business to be issued a state license and be legal under state law.
(d) Requiring track and trace management procedures to track adult-use cannabis from cultivation to sale.
(e) Requiring licensed adult-use cannabis businesses to follow strict environmental and product safety standards as a condition of maintaining their license.
(f) Denying access to cannabis by persons younger than 21 years of age who are not medicinal cannabis patients.
(g) Preventing the illegal production or distribution of cannabis.
(h) Preventing the illegal diversion of cannabis from California to other states or countries or to the illegal market.
(i) Reducing barriers to entry into the legal, regulated market.

September 18, 2017 – This document may not contain the most recent statute language
Page | 115
(j) Allowing industrial hemp to be grown as an agricultural product, and for agricultural or academic research, and regulated separately from the strains of cannabis with higher delta-9 tetrahydrocannabinol concentrations.

This act is a bill providing for appropriations related to the Budget Bill within the meaning of subdivision (e) of Section 12 of Article IV of the California Constitution, has been identified as related to the budget in the Budget Bill, and shall take effect immediately.

The amount of two hundred fifty thousand dollars ($250,000) is hereby appropriated from the Cannabis Control Fund to the Cannabis Control Appeals Panel to be used for costs associated with additional panel members provided by the Medicinal and Adult-Use Cannabis Regulation and Safety Act.

The Legislature finds and declares that this act is consistent with and furthers the purposes of the Control, Regulate and Tax Adult Use of Marijuana Act as stated in Section 3 of that act.

This act is a bill providing for appropriations related to the Budget Bill within the meaning of subdivision (e) of Section 12 of Article IV of the California Constitution, has been identified as related to the budget in the Budget Bill, and shall take effect immediately.
Appendix I

Mitigation Monitoring and Reporting Program
CalCannabis Cultivation Licensing Program EIR

Mitigation Monitoring and Reporting Program

The California Department of Food and Agriculture’s (CDFA’s) Cal Cannabis Cultivation Licensing Program (Proposed Program) would involve implementation of mitigation measures to reduce potentially significant environmental effects identified in the environmental analysis (see Volume 1, Chapter 4). These mitigation measures are listed below, as they apply to cultural resources and tribal cultural resources management activities under the Proposed Program.

This appendix describes the mitigation reporting program for the Proposed Program. The primary instrument of the overall mitigation reporting program would be the issuance of licenses with conditions requiring mitigation.

CEQA Guidelines Section 15091(d) states,

When making the findings required in subdivision (a)(1), the agency shall also adopt a program for reporting on or monitoring the changes which it has either required in the project or made a condition of approval to avoid or substantially lessen significant environmental effects. These measures must be fully enforceable through permits, agreements, or other measures.

The PEIR for the Proposed Program identified some potentially significant impacts that could arise from activities conducted under the Proposed Program. The PEIR included mitigation measures to reduce the potential environmental effects of the Proposed Program. These mitigation measures would be enforceable primarily through CDFA’s issuance of cultivation licenses, and its authority as a licensing agency to enforce all conditions of licensure, including the mitigation measures set forth in the PEIR.

The following mitigation monitoring and reporting program (MMRP) summary table includes the mitigation measures identified in CDFA’s EIR. For each mitigation measure, this table identifies monitoring and reporting actions that shall be carried out and the monitoring schedule. This table also includes a column where responsible parties can check off monitoring and reporting actions as they are completed.

As lead agency, CDFA will be responsible for ensuring that mitigation measures identified in this EIR are fully implemented. However, some mitigation measures would be implemented by the licensee(s) on behalf of CDFA. Licenses issued under the Proposed Program will identify the obligations of licensees, including relevant mitigation measures. CDFA will require that the licensee provide CDFA with documentation that it has complied with conditions of the license, including applicable mitigation measures.

Thus, in the descriptions of the mitigation measures provided in the table which follows, while CDFA may be the only party referenced in implementing a mitigation measure (i.e., where the measure states “CDFA shall”), this is intended to be inclusive of the licensee’s role in implementing certain mitigation measures.
### Mitigation Measure

| CR-1(a) | Before initiation of ground-disturbing activities, the licensee shall arrange for cultivation employees to receive training about the kinds of archaeological materials that could be present at the cultivation site and the protocols to be followed should any such materials be uncovered during cultivation. Training shall be conducted by an archaeologist who meets the U.S. Secretary of the Interior's professional standards. Training shall be required during each phase of cultivation to educate new cultivation personnel. |
| CR-1(b) | If any cultural resources, including structural features, unusual amounts of bone or shell, flaked or ground stone artifacts, historic-era artifacts, human remains, or architectural remains, are encountered during cultivation activities, work shall be suspended immediately at the location of the find and within a radius of at least 50 feet and the appropriate jurisdiction will be contacted. |
| CR-1(c) | All cultural resources uncovered during cultivation within the site shall be evaluated for eligibility for inclusion in CRHR. Resource evaluations shall be conducted by individuals who meet the U.S. Secretary of the Interior's professional standards in archaeology, history, or architectural history, as appropriate. If any of the resources meet the eligibility criteria identified in PRC Section 5024.1 or State CEQA Guidelines Section 21083.2(g), mitigation measures will be developed and implemented in accordance with State CEQA Guidelines Section 15126.4(b) before cultivation resumes. |
| CR-1(d) | For any resources eligible for listing in the CRHR that would be significantly adversely affected by cultivation, additional mitigation measures shall be implemented. Mitigation measures for archaeological resources may include (but are not limited to) avoidance; incorporation of sites within parks, greenspace, or other open space; capping the site; deeding the site into a permanent conservation |

### Monitoring and Reporting action

- CDFA will review the license application and cultivation plan prior to licensing.
- Cultivators planning to conduct ground-disturbing activities must hire a qualified archaeologist to conduct training prior to conducting ground-disturbing activities. Licensees must keep accurate training records, subject to inspection by CDFA.
- Licensee must immediately suspend activities at the site of the find and within a 50 foot radius and contact the appropriate jurisdiction.
- Licenses must report to CDFA that activities have suspended and that appropriate jurisdiction has been contacted.
- Licenses must hire a qualified professional to conduct an evaluation of any cultural resources findings at the site.
- Licenses must develop and implement required mitigation measures.
- Licenses must keep accurate records and report to CDFA the results of any evaluations.

### Schedule

- CDFA review will take place upon submittal of application.
- Cultivator training will take place before ground-disturbing activities and during each phase of cultivation to educate new personnel.
- At time of discovery of cultural resources.
- Following discovery of cultural resources.
### Mitigation Measure

| easement; or data recovery excavation. Mitigation measures for archaeological resources shall be developed in consultation with responsible agencies and, as appropriate, interested parties such as Native American tribes. Implementation of the approved mitigation is required before resuming any cultivation activities with the potential to affect identified eligible resources at the site. |
|---|---|---|
| Monitoring and Reporting action | with mitigation measures to CDFA. |
| Schedule |  |

### Tribal Cultural Resources

**TCR-1** If tribes have not already been consulted for a particular cultivation license, CDFA shall conduct such consultation. This consultation will include coordination with local jurisdictions and/or the NAHC to identify tribes with a traditional and cultural affiliation to the site. CDFA will then send letters to relevant tribal representatives describing the proposed cultivation activity and inviting the tribe to engage in consultation and provide input on any potential TCRs that could be adversely affected.

If TCRs are identified through this process, CDFA shall consult and work with the tribes to develop feasible alternatives or mitigation measures that will avoid impacts or develop and implement treatment plans that will substantially lessen the impacts on identified TCRs, in accordance with PRC Sections 21085(b)(2) or 21084.3.

CDFA will review the license application and cultivation plan prior to licensing, and conduct tribal consultation if it has not already been conducted.

CDFA will work with tribes to develop feasible alternatives or mitigation measures that will avoid impacts or develop and implement treatment plans that will substantially lessen the impacts on identified TCRs.

Upon submittal of license application.
Appendix J

CEQA Tiering Strategy and Checklist
1. Introduction and Purpose

Pursuant to the California Environmental Quality Act (CEQA), the California Department of Food and Agriculture (CDFA) has prepared a Program Environmental Impact Report (PEIR) in connection with anticipated regulations for the licensing of commercial cannabis cultivation under the Medicinal and Adult-Use Cannabis Regulation and Safety Act (MAUCRSA). The PEIR evaluates the potential environmental impacts that could result from commercial cannabis cultivation licensing. It is intended to serve as a program-level, first-tier CEQA document.

The CEQA Guidelines encourage use of a checklist when determining whether the environmental effects of site-specific operations were covered in the PEIR.¹ A checklist may also be used to help determine whether other activities related to the cannabis cultivation licensing program, such as amendments to the CDFA’s cultivation licensing regulations, have been fully examined in the PEIR, or whether further CEQA documentation should be prepared. If a later activity would have effects that differ from the impacts examined in the PEIR or were not examined in the PEIR, then further CEQA documentation should be prepared. If the effects that differ or that were not examined result in significant impacts that were not discussed in the PEIR, or would result in a substantial increase in the severity of an effect found to be significant in the PEIR, a tiered Environmental Impact Report (EIR) or a tiered mitigated negative declaration (MND) should be prepared. Otherwise, the further CEQA documentation should be, in most cases, a CEQA addendum.

CDFA has developed the CalCannabis Cultivation Licensing PEIR Tiering Checklist to provide an easy-to-use tool for determining the extent to which CEQA compliance for a cultivation licensing program activity may be tiered off the PEIR. CDFA expects that the Tiering Checklist will be used most frequently by:

1. Local agencies (or statewide agencies other than CDFA) seeking to determine what tiered CEQA documentation (if any) should be prepared to support local permitting programs, local ordinances, or other discretionary approvals;

2. Applicants desiring to work proactively with local agencies, prior to making application to CDFA, to ensure that satisfactory CEQA documentation has been prepared to support their projects; and

3. CDFA in evaluating whether future changes in regulations require tiered CEQA documentation.

The remainder of the Tiering Strategy is presented in the following sections:

- Section 2: How to Use the Tiering Checklist
- Section 3: Scenarios for Use of the Tiering Checklist
- Section 4: Use of the PEIR by Other Public Agencies

• Attachments:
  o Attachment 1: Tiering Checklist Form
  o Attachment 2: Tiered CEQA Compliance Approaches
2. How to Use the Tiering Checklist

The Tiering Checklist is organized in the same manner as the PEIR’s environmental analysis, using resource categories (e.g., aesthetics, agriculture and forestry resources, and air quality). Tiering Checklist users should follow the checklist to assess whether the proposed activity at issue (such as a specific cultivation action being considered in connection with a site-specific license application) would result in effects that differ from the impacts examined in the PEIR or effects that were not examined in the PEIR. Users should compare their knowledge of the proposed activity’s potential impacts to the assumptions, analysis and conclusions presented in the PEIR.

As described in the PEIR, CDFA concluded that all of the potential impacts of CDFA’s statewide licensing program would be less than significant. Under CEQA, a “significant impact” is defined as a substantial or potentially substantial adverse change in the environment. With the exception of two impacts (one concerning cultural resources and the other concerning tribal cultural resources), the impacts identified and described in the PEIR are less than significant without the need for mitigation measures. For the impacts to cultural resources and tribal cultural resources, the PEIR noted that each impact is less than significant with mitigation. The Tiering Checklist reflects the results of the analysis conducted in the PEIR.

For each impact described in the PEIR (and listed on the Tiering Checklist), Tiering Checklist users should indicate whether the proposed project would have the same type of impact and, if so, whether the impact would be consistent with the impact as described in the PEIR and less than significant, or inconsistent with the impact as described in the PEIR. If the proposed project’s impact is inconsistent with the impact as described in the PEIR, the user should determine whether the inconsistent impact is potentially significant. If an inconsistent impact is potentially significant, then a tiered EIR or tiered MND would be required. If inconsistent impacts are not potentially significant, then, in most cases, a CEQA addendum should be prepared. To document this comparison, the Tiering Checklist contains four checkboxes, one of which should be checked for each impact: “Consistent with the PEIR, Less than Significant;” “Inconsistent with the PEIR, Not Potentially Significant;” “Inconsistent with the PEIR, Potentially Significant;” and “No Similar Impact.” “Inconsistent with the PEIR” refers to when the impact is of the same type as the impact described in the PEIR but differs from the impact as it was examined in the PEIR (for example, because assumptions relied on in the PEIR are inapplicable to the proposed project). “No Similar Impact” refers to when the proposed project does not entail the same type of impact as described in the PEIR. For each impact comparison, an explanation should be provided.

The Tiering Checklist also contains a space for users to identify other potential impacts of the proposed project that are not at all described in the PEIR. If such other potential impacts are identified, then further CEQA documentation should be prepared. If the other potential impacts (not described in the PEIR) are potentially significant, a tiered EIR or a tiered MND should be prepared. Otherwise, the further CEQA documentation should be, in most cases, a CEQA addendum.

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3. Scenarios for Use of the Tiering Checklist

In most cases, it is expected that an applicant for a cannabis cultivation license from CDFA will have already applied for and obtained a related permit or approval from a local government. Indeed, MAUCRSA states that “[a]n applicant may voluntarily provide proof of a license, permit, or other authorization from the local jurisdiction verifying that the applicant is in compliance with the local jurisdiction.” Further, CDFA’s anticipated regulations implementing MAUCRSA are expected to contain a provision requiring that an application for a cultivation license shall include evidence that the local permit, license or other authorization to cultivate cannabis was issued in compliance with CEQA, including a copy of the Notice of Determination or Notice of Exemption, and either a copy of the CEQA document or reference to where it can be located electronically. In cases where the local jurisdiction did not prepare a CEQA document, the applicant will be responsible for providing a tiering checklist demonstrating that an environmental document is not necessary, or an environmental document in compliance with CEQA that can be certified by CDFA in its role as lead agency.

Based on CDFA’s expectations, the following describes four scenarios in which the Tiering Checklist may be used. Note that other scenarios may occur, and use of the Tiering Checklist is not necessarily limited to these described here. The use of the Tiering Checklist in the scenarios below is not mandatory, but will facilitate CDFA’s processing of the application for a license.

Scenario 1: Local Agency Leads the Project-specific CEQA Review

In this scenario, in which a local agency leads the project-specific CEQA review, the local lead agency should tier off the PEIR. The local agency would generally first act as a responsible agency on CDFA’s PEIR, making findings and filing a Notice of Determination, following the procedures outlined in CEQA Guidelines Section 15096(e) through (i). The Tiering Checklist should be used to help determine whether the environmental effects of project-specific operations were covered in the PEIR. Should the local agency choose not to act as a responsible agency on the PEIR, it could still use the PEIR as a source of information for the local lead agency’s independent environmental review of the specific project, through mechanisms such as incorporation by reference.

Prior to determining whether an MND or EIR is required for a project, the local lead agency is required to consult with all responsible agencies and may informally contact responsible agencies even earlier. As a public agency with responsibility for approving cultivation licenses, CDFA will meet the definition of “responsible agency” for all applications for which a local agency is serving as lead agency. Thus, CDFA should be consulted by the local lead agency prior to that agency’s preparation of a CEQA document.

4 See Cal. Pub. Res. Code § 21094 (“Where a prior environmental impact report has been prepared and certified for a program, plan, policy, or ordinance, the lead agency for a later project that meets the requirements of this section shall examine significant effects of the later project upon the environment by using a tiered environmental impact report [. . .]”).
6 See id. § 15150 (Incorporation by Reference).
As a responsible agency, CDFA will reach its own conclusions regarding whether and how to approve the portion of the project over which it has jurisdiction (i.e., the cultivation license). CDFA has a responsibility to adopt feasible mitigation measures or alternatives to lessen or avoid the direct or indirect environmental effects of parts of the project which it decides to approve—i.e., matters covered by the licensing program. Where a local lead agency has prepared an EIR—rather than a MND—CDFA as a responsible agency must make findings for each significant effect of the project within its jurisdiction.

If CDFA is satisfied with the CEQA document certified by the local lead agency, then no further CEQA documentation will be needed. If CDFA is not satisfied with the CEQA document certified by the local lead agency, then CEQA affords CDFA four options: (1) prepare a subsequent EIR if permissible under Section 15162 of the CEQA Guidelines (generally, if there has been either substantial changes in the project or the surrounding circumstances, or substantial new information has come to light, demonstrating that the project may have new or more adverse significant environmental impacts); (2) assume the role of the lead agency under Section 15052(a)(3) of the CEQA Guidelines (when the statute of limitations to challenge the lead agency has expired and the lead agency prepared inadequate environmental documents without consulting with CDFA as a responsible agency); (3) take the issue to court within 30 days after the local lead agency files a notice of determination; or (4) be deemed to have waived any objection to the adequacy of the EIR or negative declaration. If CDFA exercises options (1) or (2), CDFA may tier off the PEIR when developing a subsequent EIR or otherwise exercising the role of the lead agency. However, independent of CEQA, CDFA may impose on the applicant, pursuant to its independent authority under MAUCRSA, conditions which avoid or lessen any impact not considered in the PEIR or the lead agency’s CEQA review.

Scenario 2: Local Agency Leads the Project-specific CEQA Review without Consulting CDFA

As noted, the local lead agency is required to consult with all responsible agencies. However, if the local lead agency fails to consult with CDFA as a responsible agency, CDFA will still need to assess the adequacy of the local lead agency’s analysis of the environmental impacts of the project.

CDFA may require the applicant to complete the Tiering Checklist to assist with CDFA’s review. The Tiering Checklist should be used to document the extent to which the PEIR addresses the impacts of the applicant’s project. CDFA should assess the Tiering Checklist, together with the local CEQA document, to determine whether all project impacts are adequately addressed. If CDFA determines that project impacts are not adequately addressed, CDFA may assume the lead agency status. CDFA may require the applicant to prepare the appropriate environmental document, but CDFA, as lead agency, will subject the environmental document to CDFA’s own review and analysis.

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9 14 Cal. Code of Regs. § 15096(g).
10 Id. § 15096, 15091, 15093.
11 Id. § 15096(e).
12 Id. § 15052(a)(3).
13 See id. § 15084 (lead agency may choose to accept a draft EIR prepared by the applicant).
Scenario 3: Local Agency Issues an Approval, but No CEQA Document Is Prepared

In the scenario in which a local agency issues an approval for a cannabis cultivation project but no CEQA document is prepared, it may be because the local agency has found that the project is subject to a categorical exemption or the project is covered by the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment. CDFA may reject a lead agency’s exemption determination, but there should be a reasonable basis for doing so and for determining that the project does not fit within the exemption.\(^{14}\) CDFA may require the applicant to complete the Tiering Checklist to assist CDFA’s review. The Tiering Checklist should be used to document the extent to which the PEIR addresses the impacts of the applicant’s project. CDFA should assess the Tiering Checklist to determine whether all project impacts are adequately addressed. If CDFA determines that project impacts are not adequately addressed, CDFA may require the applicant to prepare the appropriate environmental document, but CDFA will subject the environmental document to CDFA’s own review and analysis.\(^{15}\)

Scenario 4: No Local Agency Approval is Involved

In some rare cases, there may be no local agency involvement (for example, because no discretionary local approval is required pursuant to local ordinance). In such cases, CDFA will likely be the lead agency, as the sole licensing authority. In this case, the process would be very similar to that of Scenario 3. CDFA may require the applicant to complete the Tiering Checklist to assist CDFA’s review. The Tiering Checklist should be used to document the extent to which the PEIR addresses the impacts of the applicant’s project. CDFA should assess the Tiering Checklist to determine whether all project impacts are adequately addressed. If CDFA determines that project impacts are not adequately addressed, CDFA may require the applicant to prepare the appropriate environmental document, but CDFA, as lead agency, will subject the environmental document to CDFA’s own review and analysis.\(^{16}\)

\(^{14}\)See Kostka & Zischke, Practice Under the California Environmental Quality Act § 3.30.

\(^{15}\) Id.

\(^{16}\) See 14 Cal. Code of Regs. § 15084 (lead agency may choose to accept a draft EIR prepared by the applicant).
**Figure 1. Typical Approach for Use of the Tiering Checklist**

1. Is application supported by a certified CEQA document?  
   - no: Prepare checklist and additional environmental documentation as necessary.  
   - yes: Based on CDFA’s independent review, is CEQA document adequate?  
     - no: Prepare checklist and additional environmental documentation as necessary.  
     - yes: CDFA acts as responsible agency on CEQA document.
4. Use of the PEIR by Other Public Agencies

As previously discussed, public agencies other than CDFA oversee commercial cultivation, and may be a responsible agency for some of the activities under CDFA’s discretion. These public agencies also may be able to use the PEIR for CEQA compliance or as a source of information, either for their permitting program as a whole, and/or for individual approvals of commercial cultivation operations.

Those using the PEIR in this manner may include cities, counties, and various state or other local agencies. If a responsible agency other than CDFA intends to use the PEIR as a basis for CEQA compliance, it must adopt the PEIR as its own document, following the process described in Section 15096 of the CEQA Guidelines. After the PEIR is adopted by the responsible agency, the agency may use the PEIR as part of its own tiering strategy for CEQA compliance.

In addition, the PEIR may be used as a source of information for a public agency’s independent environmental review of its proposed activities, through mechanisms such as incorporation by reference (see CEQA Guidelines Section 15150).
## Attachment 1 - Tiering Checklist Form

### Applicant Information

<table>
<thead>
<tr>
<th>CalCannabis Cultivation Licensing Tiering Checklist Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name and contact information of applicant</td>
</tr>
<tr>
<td>Application number</td>
</tr>
<tr>
<td>Name and contact information of checklist preparer</td>
</tr>
<tr>
<td>Signature of preparer and date</td>
</tr>
</tbody>
</table>

- **Sign:**
- **Date:**
## Aesthetics

<table>
<thead>
<tr>
<th>Aesthetics</th>
<th>Consistent with the PEIR, Less than Significant</th>
<th>Inconsistent with the PEIR, Not Potentially Significant</th>
<th>Inconsistent with the PEIR, Potentially Significant</th>
<th>No Similar Impact</th>
</tr>
</thead>
</table>

Would the proposed activity result in impacts that differ from the following impacts identified and discussed in the CalCannabis Cultivation Licensing PEIR (see PEIR Chapter 4.1)?

**Impact AES-1:** Result in a substantial adverse effect on a scenic vista, scenic resource, or State-designated scenic highway, and/or the existing visual character or quality of a site and its surroundings. (See PEIR pages 4.1-16 to 4.1-18)

Explanation:

**Impact AES-2:** Create a new source of substantial light or glare as a result of outdoor security lighting. (See PEIR page 4.1-18)

Explanation:

**Impact AES-3:** Create a new source of substantial light or glare as a result of indoor cultivation techniques. (See PEIR pages 4.1-18 to 4.1-19.)

Explanation:

**Impact AES-4:** Create a new source of substantial light or glare as a result of mixed-light cultivation. (See PEIR page 4.1-19.)
Would the proposed activity have other impacts not addressed above (refer to the checklist questions contained in Appendix G of the CEQA Guidelines)?

<table>
<thead>
<tr>
<th>Impact</th>
<th>Potentially Significant</th>
<th>Less than Significant with Mitigation</th>
<th>Less than Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

Explanation:
## Agriculture and Forestry Resources

<table>
<thead>
<tr>
<th>Agriculture and Forestry Resources</th>
<th>Consistent with the PEIR, Less than Significant</th>
<th>Inconsistent with the PEIR, Not Potentially Significant</th>
<th>Inconsistent with the PEIR, Potentially Significant</th>
<th>No Similar Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact AG-1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use.</td>
<td></td>
<td></td>
<td></td>
<td>No significant impacts possible</td>
</tr>
<tr>
<td>Impact AG-2: Convert farmland to cannabis cultivation from other crops.</td>
<td></td>
<td></td>
<td></td>
<td>No significant impacts possible</td>
</tr>
<tr>
<td>Impact AG-3: Potential conflict with existing zoning for agricultural use or Williamson Act contract. (See PEIR page 4.2-23.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explanation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact AG-4: Conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned for timberland production. (See PEIR page 4.4-24.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explanation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact AG-5: Cause loss of forestland or conversion of forestland to nonforest uses. (See PEIR page 4.2-24.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explanation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Would the proposed activity result in impacts that differ from the following impacts identified and discussed in the CalCannabis Cultivation Licensing PEIR (see PEIR Chapter 4.2)?
Impact AG-6: Involve other changes in the existing environment that, because of their location or nature, could result in conversion of farmland to nonagricultural use or conversion of forest land to nonforest use. (See PEIR pages 4.2-24 to 4.2-25.)

<p>| | | | |</p>
<table>
<thead>
<tr>
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</thead>
</table>

Explanation:

Would the proposed activity have other impacts not addressed above (refer to the checklist questions contained in Appendix G of the CEQA Guidelines)?

<table>
<thead>
<tr>
<th>Impact:</th>
<th>Potentially Significant</th>
<th>Less than Significant with Mitigation</th>
<th>Less than Significant</th>
</tr>
</thead>
</table>

Explanation:
## Air Quality

<table>
<thead>
<tr>
<th>Air Quality</th>
<th>Consistent with the PEIR, Less than Significant</th>
<th>Inconsistent with the PEIR, Not Potentially Significant</th>
<th>Inconsistent with the PEIR, Potentially Significant</th>
<th>No Similar Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact AQ-1: Conflict with or obstruct implementation of an applicable air quality plan, and/or violate any air quality standard or contribute substantially to an existing or projected air quality violation. (See PEIR pages 4.3-29 to 4.3-32.)</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Impact AQ-2: Expose sensitive receptors to substantial pollutant concentrations as a result of cannabis cultivation. (See PEIR pages 4.3-32 to 4.3-33.)</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Impact AQ-3: Create objectionable odors affecting a substantial number of people as a result of cannabis cultivation. (See PEIR page 4.3-33 to 4.3-34.)</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

**Explanation:**

**Would the proposed activity have other impacts not addressed above (refer to the checklist questions contained in Appendix G of the CEQA Guidelines)?**
## Impact:

<table>
<thead>
<tr>
<th></th>
<th>Potentially Significant</th>
<th>Less than Significant with Mitigation</th>
<th>Less than Significant</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

### Explanation:

...
## Biological Resources

<table>
<thead>
<tr>
<th>Biological Resources</th>
<th>Consistent with the PEIR, Less than Significant</th>
<th>Inconsistent with the PEIR, Not Potentially Significant</th>
<th>Inconsistent with the PEIR, Potentially Significant</th>
<th>No Similar Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact BIO-1: Cause adverse effects on aquatic and semi-aquatic special-status species. (See PEIR pages 4.4-17 to 4.4-21.)</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Explanation:</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Impact BIO-2: Cause substantial adverse effects on special-status plant species. (See PEIR pages 4.4-21 to 4.4-22.)</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Explanation:</td>
<td></td>
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</tr>
<tr>
<td>Impact BIO-3: Cause substantial adverse effects on wildlife due to increased light, including special-status terrestrial wildlife species. (See PEIR page 4.4-22.)</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Explanation:</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Impact BIO-4: Cause substantial adverse effects on special-status terrestrial wildlife species due to increased noise and human presence. (See PEIR pages 4.4-22 to 4.4-23.)</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

*Would the proposed activity result in impacts that differ from the following impacts identified and discussed in the CalCannabis Cultivation Licensing PEIR (see PEIR Chapter 4.4)?*
<table>
<thead>
<tr>
<th>Explanation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact BIO-5: Cause substantial adverse effects on riparian habitat, other sensitive natural communities, or federally protected wetlands. (See PEIR page 4.4-23 to 4.4-24.)</td>
</tr>
<tr>
<td>□</td>
</tr>
<tr>
<td>Explanation:</td>
</tr>
<tr>
<td>Impact BIO-6: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or wildlife corridor, or impede the use of native wildlife nursery sites. (See PEIR pages 4.4-24 to 4.4-25.)</td>
</tr>
<tr>
<td>□</td>
</tr>
<tr>
<td>Explanation:</td>
</tr>
<tr>
<td>Impact BIO-7: Conflict with applicable habitat conservation plans or natural community conservation plans. (See PEIR page 4.4-25.)</td>
</tr>
<tr>
<td>□</td>
</tr>
<tr>
<td>Explanation:</td>
</tr>
<tr>
<td>Impact BIO-8: Conflict with local policies or ordinances protecting biological resources. (See PEIR page 4.4-25.)</td>
</tr>
<tr>
<td>□</td>
</tr>
<tr>
<td>Impact BIO-9: Cause substantial adverse effects on wildlife due to pesticide use (besides rodenticides). (See PEIR pages 4.4-25 to 4.4-26.)</td>
</tr>
<tr>
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</tr>
<tr>
<td>Explanation:</td>
</tr>
<tr>
<td>Impact BIO-10: Cause substantial adverse effects on wildlife due to rodenticide use. (See PEIR pages 4.4-26 to 4.4-30.)</td>
</tr>
<tr>
<td>Explanation:</td>
</tr>
<tr>
<td>Impact BIO-11: Cause substantial adverse impact on nesting birds as a result of outdoor cultivation. (See PEIR page 4.4-30.)</td>
</tr>
<tr>
<td>Explanation:</td>
</tr>
</tbody>
</table>

*Would the proposed activity have other impacts not addressed above (refer to the checklist questions contained in Appendix G of the CEQA Guidelines)?*

<table>
<thead>
<tr>
<th>Impact:</th>
<th>Potentially Significant</th>
<th>Less than Significant with Mitigation</th>
<th>Less than Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

Explanation:
### Cultural Resources

<table>
<thead>
<tr>
<th>Cultural Resources</th>
<th>Consistent with the PEIR, Less than Significant with Mitigation Measure</th>
<th>Inconsistent with the PEIR, Not Potentially Significant</th>
<th>Inconsistent with the PEIR, Potentially Significant</th>
<th>No Similar Impact</th>
</tr>
</thead>
</table>

Would the proposed activity result in impacts that differ from the following impacts identified and discussed in the CalCannabis Cultivation Licensing PEIR (see PEIR Chapter 4.5)?

Impact CR-1: Cause substantial adverse impacts on historical resources, archaeological resources, and human remains. (See PEIR pages 4.5-9 to 4.5-11.)

|                  | □                  | □                  | □                  | □                  |

Explanation:

Would the proposed activity have other impacts not addressed above (refer to the checklist questions contained in Appendix G of the CEQA Guidelines)?

Impact:

<table>
<thead>
<tr>
<th>Potentially Significant</th>
<th>Less than Significant with Mitigation</th>
<th>Less than Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

Explanation:
### Energy Use and Greenhouse Gas Emissions

<table>
<thead>
<tr>
<th>Energy Use and Greenhouse Gas Emissions</th>
<th>Consistent with the PEIR, Less than Significant</th>
<th>Inconsistent with the PEIR, Not Potentially Significant</th>
<th>Inconsistent with the PEIR, Potentially Significant</th>
<th>No Similar Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Impact GHG-1:</strong> Potential to conflict with an applicable plan, policy, or regulation adopted to reduce the emissions of GHGs, result in wasteful, inefficient, and unnecessary consumption of energy, or cause a substantial increase in energy demand and the need for additional energy resources.</td>
<td>No potential for a significant impact.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Impact GHG-2:</strong> Use off-road equipment and motor vehicles for outdoor cultivation activities, resulting in GHG emissions.</td>
<td></td>
<td>No potential for a significant impact.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Would the proposed activity result in impacts that differ from the following impacts identified and discussed in the CalCannabis Cultivation Licensing PEIR (see PEIR Chapter 4.6)?*

<table>
<thead>
<tr>
<th>Impact:</th>
<th>Potentially Significant</th>
<th>Less than Significant with Mitigation</th>
<th>Less than Significant</th>
<th>No Similar Impact</th>
</tr>
</thead>
</table>

**Explanation:**
### Geology and Soils

<table>
<thead>
<tr>
<th>Geology and Soils</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant Impact with Mitigation</th>
<th>Less than Significant Impact or No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would the proposed activity result in impacts that differ from the impacts identified and discussed in the CalCannabis Cultivation Licensing PEIR (see PEIR Section 4.0.10)?</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

Would the proposed activity expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

- Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

  | Would the proposed activity be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? | □ | □ | □ |

Explanation:

Strong seismic ground shaking?

Seismic-related ground failure, including liquefaction?

Landslides?
<table>
<thead>
<tr>
<th>Geology and Soils</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant Impact with Mitigation</th>
<th>Less than Significant Impact or No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explanation:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Would the proposed activity be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Explanation:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Would the proposed activity have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Explanation:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Hazards, Hazardous Materials, and Human Health

<table>
<thead>
<tr>
<th>Hazards, Hazardous Materials, and Human Health</th>
<th>Consistent with the PEIR, Less than Significant</th>
<th>Inconsistent with the PEIR, Not Potentially Significant</th>
<th>Inconsistent with the PEIR, Potentially Significant</th>
<th>No Similar Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Would the proposed activity result in impacts that differ from the following impacts identified and discussed in the CalCannabis Cultivation Licensing PEIR (see PEIR Chapter 4.7)?</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact HAZ-1: Release hazardous materials from routine transport, use, and disposal. (See PEIR pages 4.7-17 to 4.7-18.)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Explanation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact HAZ-2: Create a significant hazard through release of hazardous materials from upset or accident conditions. (See PEIR page 4.7-18.)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Explanation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact HAZ-3: Cause health risks from pesticide use. (See PEIR pages 4.7-18 to 4.7-19.)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Explanation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact HAZ-4: Emit hazardous emissions or materials within 0.25 mile of a school. (See PEIR pages 4.7-19 to 4.7-20.)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Explanation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Impact HAZ-5: Locate project activities on a hazardous materials site. (See PEIR page 4.7-20.)

<table>
<thead>
<tr>
<th>Potentially Significant</th>
<th>Less than Significant with Mitigation</th>
<th>Less than Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>□</td>
<td>□</td>
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</tr>
</tbody>
</table>

Explanation:

Impact HAZ-6: Locate project activities near an airport or private airstrip such as to increase hazards. (See PEIR page 4.7-21.)

<table>
<thead>
<tr>
<th>Potentially Significant</th>
<th>Less than Significant with Mitigation</th>
<th>Less than Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>□</td>
<td>□</td>
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</tr>
</tbody>
</table>

Explanation:

Impact HAZ-7: Expose people or structures to substantial risk of loss from wildfire. (See PEIR pages 4.7-21 to 4.7-22.)

<table>
<thead>
<tr>
<th>Potentially Significant</th>
<th>Less than Significant with Mitigation</th>
<th>Less than Significant</th>
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</thead>
<tbody>
<tr>
<td>□</td>
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</tr>
</tbody>
</table>

Explanation:

Impact HAZ-8: Create substantial hazards for firefighters and first responders from indoor cultivation. (See PEIR pages 4.7-22 to 4.7-23.)

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>□</td>
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</table>

Explanation:

Would the proposed activity have other impacts not addressed above (refer to the checklist questions contained in Appendix G of the CEQA Guidelines)?

<table>
<thead>
<tr>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would the proposed activity have other impacts not addressed above (refer to the checklist questions contained in Appendix G of the CEQA Guidelines)?</td>
</tr>
<tr>
<td>Potentially Significant</td>
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<td>□</td>
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Explanation:
## Hydrology and Water Quality

<table>
<thead>
<tr>
<th>Hydrology and Water Quality</th>
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<th>No Similar Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact HWQ-1: Cause adverse effects on beneficial uses from surface water diversions for crop irrigation, or cause insufficiency of surface water supplies. (See PEIR pages 4.8-35 to 4.8-36.)</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Impact HWQ-2: Cause aquifer depletion from use of groundwater for crop irrigation and result in insufficiency of groundwater supplies. (See PEIR pages 4.8-36 to 4.8-38.)</td>
<td>□</td>
<td>□</td>
<td>□</td>
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</tr>
<tr>
<td>Impact HWQ-3: Cause discharges of sediment, nutrients, or other contaminants (excluding pesticides) from outdoor or mixed-light cultivation. (See PEIR pages 4.8-38 to 4.8-39.)</td>
<td>□</td>
<td>□</td>
<td>□</td>
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</tr>
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</table>

Would the proposed activity result in impacts that differ from the following impacts identified and discussed in the CalCannabis Cultivation Licensing PEIR (see PEIR Chapter 4.8)?

Explanation:
<table>
<thead>
<tr>
<th>Impact HWQ-4: Cause water quality impacts from pesticide use in outdoor or mixed-light cultivation. (See PEIR pages 4.8-39 to 4.8-40.)</th>
<th>□</th>
<th>□</th>
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<tbody>
<tr>
<td>Explanation:</td>
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</tr>
<tr>
<td>Impact HWQ-5: Cause discharges of sediment, nutrients, and other contaminants (excluding pesticides) from indoor cultivation operations. (See PEIR pages 4.8-40 to 4.8-41.)</td>
<td>□</td>
<td>□</td>
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<tr>
<td>Explanation:</td>
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</tr>
<tr>
<td>Impact HWQ-6: Cause water quality impacts from pesticide use in indoor cultivation. (See PEIR page 4.8-41.)</td>
<td>□</td>
<td>□</td>
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<td>Explanation:</td>
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*Would the proposed activity have other impacts not addressed above (refer to the checklist questions contained in Appendix G of the CEQA Guidelines)?*

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</table>

Explanation:
## Land Use and Planning

<table>
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<th>No Similar Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would the proposed activity result in impacts that differ from the following impacts identified and discussed in the CalCannabis Cultivation Licensing PEIR (see PEIR Chapter 4.9)?</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Impact LU-1: Physically divide an established community. (See PEIR pages 4.9-4 to 4.9-5.)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>Explanation:</td>
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</tr>
<tr>
<td>Impact LU-2: Conflict with applicable land use plans, policies, or regulations. (See PEIR page 4.9-5.)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>Explanation:</td>
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</tbody>
</table>
### Mineral Resources

<table>
<thead>
<tr>
<th>Mineral Resources</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant Impact with Mitigation</th>
<th>Less than Significant Impact or No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would the proposed activity result in impacts that differ from the impacts identified and discussed in the CalCannabis Cultivation Licensing PEIR (see PEIR Section 4.0.10)?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Would the proposed activity result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Explanation:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Would the proposed activity result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Explanation:</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>
## Noise

<table>
<thead>
<tr>
<th>Noise</th>
<th>Consistent with the PEIR, Less than Significant</th>
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<th>Inconsistent with the PEIR, Potentially Significant</th>
<th>No Similar Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact NOI-1: Expose people or residences to excessive noise levels within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport. (See PEIR page 4.10-16.)</td>
<td>□</td>
<td>□</td>
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<tr>
<td>Explanation:</td>
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</tr>
<tr>
<td>Impact NOI-2: Use mechanical equipment for the cultivation of cannabis resulting in generation of excessive groundborne vibration or groundborne noise levels. (See PEIR pages 4.10-16 to 4.10-17.)</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Explanation:</td>
<td></td>
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</tr>
<tr>
<td>Impact NOI-3: Use of mechanical equipment for the cultivation of cannabis resulting in a substantial permanent increase in ambient noise levels in the vicinity of a Proposed Program activity above levels existing without the Proposed Program. (See PEIR page 4.10-17.)</td>
<td>□</td>
<td>□</td>
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</tr>
</tbody>
</table>

Would the proposed activity result in impacts that differ from the following impacts identified and discussed in the CalCannabis Cultivation Licensing PEIR (see PEIR Chapter 4.10)?
Explanation:

<table>
<thead>
<tr>
<th>Impact NOI-4: Use mechanical equipment for the cultivation of cannabis resulting in excessive noise for sensitive receptors, and/or resulting in a substantial temporary or periodic increase in ambient noise levels. (See PEIR pages 4.10-18 to 4.10-19.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potentially Significant</td>
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<tr>
<td>Less than Significant with Mitigation</td>
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<tr>
<td>Less than Significant</td>
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Explanation:

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</table>

Explanation:
## Population and Housing

<table>
<thead>
<tr>
<th>Population and Housing</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant Impact with Mitigation</th>
<th>Less than Significant Impact or No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would the proposed activity result in impacts that differ from the impacts identified and discussed in the CalCannabis Cultivation Licensing PEIR (see PEIR Section 4.0.10)?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Would the proposed activity Induce substantial population growth in an area, either directly or indirectly?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Would the proposed activity displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Would the proposed activity displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td></td>
<td></td>
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</tbody>
</table>
# Public Services

<table>
<thead>
<tr>
<th>Public Services</th>
<th>Consistent with the PEIR, Less than Significant</th>
<th>Inconsistent with the PEIR, Not Potentially Significant</th>
<th>Inconsistent with the PEIR, Potentially Significant</th>
<th>No Similar Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would the proposed activity result in impacts that differ from the following impacts identified and discussed in the CalCannabis Cultivation Licensing PEIR (see PEIR Chapter 4.11)?</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Impact PS-1: Cause a substantial adverse impact related to police protection services. (See PEIR pages 4.11-6 to 4.11-9.)</td>
<td>□</td>
<td>□</td>
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<tr>
<td>Explanation:</td>
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</tr>
<tr>
<td>Impact PS-2: Cause a substantial adverse impact related to schools. (See PEIR pages 4.11-9 to 4.11-10.)</td>
<td>□</td>
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<tr>
<td>Explanation:</td>
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<tr>
<td>Impact PS-3: Cause a substantial adverse impact related to parks or other public services. (See PEIR page 4.11-10.)</td>
<td>□</td>
<td>□</td>
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<tr>
<td>Explanation:</td>
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</tr>
<tr>
<td>Impact PS-4: Cause a substantial adverse impact related to fire protection services from outdoor cultivation. (See PEIR pages 4.11-10 to 4.11-11.)</td>
<td>□</td>
<td>□</td>
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<tr>
<td>Explanation:</td>
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</tbody>
</table>
Impact PS-5: Cause a substantial adverse impact related to fire protection services from indoor cultivation. (See PEIR pages 4.11-11 to 4.11-13.)

<table>
<thead>
<tr>
<th>Impact</th>
<th>Potentially Significant</th>
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<th>Less than Significant</th>
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<tbody>
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</tbody>
</table>

Explanation:

Impact PS-6: Cause a substantial adverse impact related to fire protection services from mixed-light cultivation. (See PEIR page 4.11-13.)

<table>
<thead>
<tr>
<th>Impact</th>
<th>Potentially Significant</th>
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<tbody>
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</table>

Explanation:

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<tr>
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Explanation:
### Recreation

<table>
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<th>Recreation</th>
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</thead>
<tbody>
<tr>
<td>Would the proposed activity result in impacts that differ from the impacts identified and discussed in the CalCannabis Cultivation Licensing PEIR (see PEIR Section 4.0.10)?</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Would the proposed activity increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Explanation:</td>
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</tr>
<tr>
<td>Does the proposed activity include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?</td>
<td>□</td>
<td>□</td>
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</tr>
<tr>
<td>Explanation:</td>
<td></td>
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</table>
## Traffic and Transportation

<table>
<thead>
<tr>
<th>Traffic and Transportation</th>
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<th>Inconsistent with the PEIR, Potentially Significant</th>
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<tbody>
<tr>
<td><strong>Traffic and Transportation</strong></td>
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<td><strong>Inconsistent with the PEIR, Potentially Significant</strong></td>
<td><strong>Inconsistent with the PEIR, Potentially Significant</strong></td>
<td><strong>No Similar Impact</strong></td>
</tr>
<tr>
<td>Would the proposed activity result in impacts that differ from the following impacts identified and discussed in the CalCannabis Cultivation Licensing PEIR (see PEIR Chapter 4.12)?</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Impact TRA-1: Conflict with circulation plans, ordinances, or policies. (See PEIR pages 4.12-4 to 4.12-7.)</td>
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<tr>
<td>Explanation:</td>
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</tr>
<tr>
<td>Impact TRA-2: Conflict with congestion management programs. (See PEIR pages 4.12-7 to 4.12-8.)</td>
<td></td>
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<tr>
<td>Explanation:</td>
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</tr>
<tr>
<td>Impact TRA-3: Result in a change to air traffic patterns. (See PEIR page 4.12-8.)</td>
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<tr>
<td>Explanation:</td>
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</tr>
<tr>
<td>Impact TRA-4: Increase hazards due to a design feature or incompatible uses. (See PEIR page 4.12-8.)</td>
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<tr>
<td>Explanation:</td>
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<td></td>
</tr>
<tr>
<td>Impact TRA-5: Result in effects on emergency access. (See PEIR page 4.12-8.)</td>
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</tr>
</tbody>
</table>
Explanation:

| Impact TRA-6: Result in effects related to public transit, bicycle, or pedestrian facilities. (See PEIR pages 4.12-8 to 4.12-9.) | □ | □ | □ | □ |

Explanation:

*Would the proposed activity have other impacts not addressed above (refer to the checklist questions contained in Appendix G of the CEQA Guidelines)?*

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<tr>
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</tbody>
</table>

Explanation:
## Tribal Cultural Resources

<table>
<thead>
<tr>
<th>Tribal Cultural Resources</th>
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<th>Inconsistent with the PEIR, Potentially Significant</th>
<th>No Similar Impact</th>
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</thead>
</table>

Would the proposed activity result in impacts that differ from the following impacts identified and discussed in the CalCannabis Cultivation Licensing PEIR (see PEIR Chapter 4.13)?

Impact TCR-1: Cause a substantial adverse impact on tribal cultural resources. (See PEIR pages 4.13-8 to 4.13-9.)

| | □ | □ | □ | □ |

Explanation:

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</table>

Explanation:
### Utilities and Service Systems

<table>
<thead>
<tr>
<th>Utilities and Service Systems</th>
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<th>Inconsistent with the PEIR, Potentially Significant</th>
<th>No Similar Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact UTL-1: Exceed wastewater treatment requirements, result in expansion of wastewater treatment facilities, or result in a determination by the wastewater treatment provider that it has inadequate capacity to serve Proposed Program activities. (See PEIR pages 4.14-5 to 4.14-7.)</td>
<td>□</td>
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<td>□</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
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</tr>
<tr>
<td>Impact UTL-2: Require or result in the construction of new or expanded water treatment facilities. (See PEIR pages 4.14-7 to 4.14-8.)</td>
<td>□</td>
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<tr>
<td><strong>Explanation:</strong></td>
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</tr>
<tr>
<td>Impact UTL-3: Require or result in the construction of new or expanded stormwater facilities. (See PEIR page 4.14-8.)</td>
<td>□</td>
<td>□</td>
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<td>□</td>
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<tr>
<td><strong>Explanation:</strong></td>
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</tr>
<tr>
<td>Impact UTL-4: Potential to be served by a landfill with insufficient capacity. (See PEIR page 4.14-8.)</td>
<td>□</td>
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</tbody>
</table>

*Would the proposed activity result in impacts that differ from the following impacts identified and discussed in the CalCannabis Cultivation Licensing PEIR (see PEIR Chapter 4.14)?*
<table>
<thead>
<tr>
<th>Impact UTL-5: Failure to comply with existing statutes related to solid waste. (See PEIR page 4.14-9.)</th>
<th>□</th>
<th>□</th>
<th>□</th>
<th>□</th>
</tr>
</thead>
</table>

**Explanation:**

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</table>

**Explanation:**
Cumulative Impacts

<table>
<thead>
<tr>
<th>Cumulative Impacts</th>
<th>Consistent with the PEIR, Less than Significant</th>
<th>Inconsistent with the PEIR, Not Potentially Significant</th>
<th>Inconsistent with the PEIR, Potentially Significant</th>
<th>No Similar Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would the proposed activity result in impacts that differ from the impacts identified and discussed in the CalCannabis Cultivation Licensing PEIR related to the following topics (see PEIR Chapter 6)?</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Aesthetics (See PEIR pages 6-24 to 6-25.)</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Explanation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agricultural and Forestry Resources (See PEIR page 6-25.)</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Explanation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air Quality (See PEIR pages 6-25 to 6-27.)</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Explanation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biological Resources (See PEIR pages 6-27 to 6-30.)</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Explanation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hazards, Hazardous Materials, and Human Health (See PEIR pages 6-30 to 6-32.)</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Explanation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrology and Water Quality (See PEIR pages 6-32 to 6-33.)</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>
Explanation:

<table>
<thead>
<tr>
<th>aspect</th>
<th>Potentially Significant</th>
<th>Less than Significant with Mitigation</th>
<th>Less than Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noise (See PEIR pages 6-33 to 6-34.)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Public Services (See PEIR pages 6-34 to 6-35.)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Transportation and Traffic (See PEIR pages 6-35 to 6-36.)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Utilities and Service Systems (See PEIR page 6-36 to 6-37.)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Would the proposed activity have other cumulative impacts not addressed above?

Impact:  
- Potentially Significant
- Less than Significant with Mitigation
- Less than Significant

Explanation:
Conclusions

The environmental factors checked below would be potentially affected by the proposed activity, involving at least one new or substantially more severe significant impact that was not covered in the certified CalCannabis Cultivation Licensing Program PEIR (State Clearinghouse #2016082077) as indicated by the checklists on the preceding pages.

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology / Soils
- Energy Use / Greenhouse Gas Emissions
- Hazards / Hazardous Materials / Human Health
- Hydrology / Water Quality
- Land Use / Planning
- Mineral Resources
- Noise
- Population / Housing
- Public Services
- Recreation
- Transportation / Traffic
- Utilities / Service Systems
- Cumulative Impacts

Determination (To be completed by the Lead Agency)

On the basis of this initial evaluation:

- I find that the proposed activity falls within the scope of the PEIR and/or other CEQA documentation, and no further environmental documentation is needed.

- I find that the proposed activity is not entirely within the scope of the PEIR and/or other CEQA documentation, but could not have a significant effect on the environment, and an ADDENDUM will be prepared.

- I find that although the proposed activity could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

- I find that the proposed activity MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

________________________________________  __________________________________________
Signature                                      Date
Attachment 2 – Tiered CEQA Compliance Approaches

Several approaches can be used to achieve CEQA compliance for specific activities when tiering from a PEIR. This attachment describes the main types of CEQA compliance approaches that may be used in conjunction with implementation of the Proposed Program’s PEIR. It also addresses the use of this PEIR by other public agencies and entities pursuant to their own authority.

The Tiering Strategy and Checklist (Attachment 1) are intended to assist identification of which of the following compliance approaches is appropriate before issuing individual licenses under the Proposed Program, and to provide documentation of and justification for the selected approach:

- No Additional Compliance Needed
- CEQA Addendum
- Project-Level Tiered Documents:
  - Mitigated Negative Declaration (MND)
  - Environmental Impact Report (EIR)
- Program-Level Tiered Documents:
  - MND
  - EIR

For each approach, CEQA’s public notification and involvement process is identified. Additional public notice or documentation may be required outside of framework of CEQA.

No Additional Compliance Needed

If an activity has been described and evaluated in the PEIR and determined to not have potential for any new impacts or more significant impacts than disclosed in the PEIR, then no additional CEQA compliance steps would be required.

CEQA Addendum

A CEQA Addendum is the appropriate CEQA compliance document when an activity or its impacts have not been specifically described in the PEIR, but that activity has been determined not to have any potentially significant impacts or any more significant impacts than disclosed in the PEIR.

The CEQA Addendum would describe the activity and how its impacts would not be potentially significant and/or would be consistent with those evaluated in the PEIR. In evaluating impacts, a checklist tool such as the Tiering Checklist or the CEQA Guidelines Appendix G checklist may be used. The CEQA Addendum’s conclusions should be supported by substantial evidence, so that the addendum can serve as documentation to validate why no additional CEQA compliance steps are necessary.

A CEQA Addendum does not need to be circulated for public review but should be added to the PEIR Administrative Record. Before authorizing or implementing the activity, the agency would consider the CEQA Addendum together with the PEIR in determining whether and how to approve the activity.
Project-Level Tiered Documents

Mitigated Negative Declaration
An MND is appropriate when an activity may have new potentially significant environmental impacts, or substantially increase the severity of environmental impacts compared to those discussed in the PEIR, but the new or more significant impact(s) would be mitigated to a less-than-significant level, such as the following:

- An activity which could have a substantial adverse effect on a special-status species, but for which mitigation that was not considered in the PEIR is proposed to address the impact.

A tiered MND would describe the activity and its location, evaluate the potential impacts using the CEQA Guidelines Appendix G checklist, the Tiering Checklist, or additional questions where relevant, and include a finding that the activity would not have a significant impact on the environment after mitigation. The public review and approval process for the tiered MND would follow that described in Sections 15072 through 15075 of the CEQA Guidelines. A mitigation monitoring plan would be required for the new mitigation measures in compliance with CEQA Guidelines Section 15097.

Environmental Impact Report
A tiered, project-level EIR would be used for similar situations as described for a tiered, project-level MND, but for which at least one of the new or more significant impacts would be significant, and no feasible mitigation would be available to reduce the impact(s) to a less-than-significant level. In other words, the tiered EIR would be used when potentially significant and unavoidable impacts could result that were not disclosed in the PEIR, such as the following:

- A cultivation practice would have a substantial adverse effect on environmental resources, and no feasible mitigation exists to reduce the impact to a level that is less than significant.
- A cultivation practice would generate a substantially greater impact than was evaluated in the PEIR, and no feasible mitigation exists to reduce the impact to a level that is less than significant.
- Mitigation measures or alternatives are available that are considerably different from those described in the PEIR and would substantially reduce a significant effect on the environment, but the agency declines to adopt the new measures or alternatives.

The EIR would describe the activity and would analyze new or more significant impacts, including a re-analysis of relevant resource topics discussed in the PEIR. As part of the EIR process, the agency would need to make a determination of whether the economic, legal, social, technological, or other benefits of the activity would outweigh its significant adverse effect(s).

This option is the most rigorous and time-consuming process for CEQA compliance, and would follow the same steps as those conducted for the PEIR (as described in CEQA Guidelines Section 15080 through 15097).

Program-Level Tiered Documents
Program-level tiered CEQA documents would be prepared when a broad range of activities is contemplated for addition to the Proposed Program that potentially could have new or more significant impacts compared to those evaluated in the PEIR. Typically, such activities would not be site-specific.
Examples include adoption by CDFA of updated regulations, for which the specific implementation details (e.g., location) would be determined in the future.

Depending on the nature of the activities, a CEQA addendum, or a program-level tiered MND or EIR would be appropriate. The same considerations, contents, and process described for project-level documents would apply to these program-level tiered documents.
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calcannabis.cdfa.ca.gov