

**State of California  
Office of Administrative Law**

In re:  
Department of Food and Agriculture

**Regulatory Action:**

Title 03, California Code of Regulations

Adopt sections: 4890, 4943, 4934, 4936,  
4951, 4952

Amend sections: 4900, 4901, 4902, 4930,  
4935, 4940, 4941, 4942,  
4944, 4946, 4950, 4950.1

Repeal sections:

**NOTICE OF APPROVAL OF CERTIFICATE OF  
COMPLIANCE**

Government Code Sections 11349.1 and  
11349.6(d)

OAL Matter Number: 2023-0329-02

OAL Matter Type: Certificate of Compliance  
Resub (CR)

In this certificate of compliance, the Department makes permanent its emergency regulations, which consolidate definitions in one section, establish requirements related to planting locations and movement of industrial hemp nursery stock, put in place procedures for corrective action plans, and set forth an appeals process to challenge a determination by the commissioner that a violation has occurred.

OAL approves this regulatory action pursuant to section 11349.6(d) of the Government Code.

Date: May 11, 2023



Thanh Huynh  
Senior Attorney

For: Kenneth J. Pogue  
Director

Original: Karen Ross, Secretary  
Copy: Rachel Avila

## NOTICE PUBLICATION/REGULATORY ACTION

CERT

For use by Secretary of State only

STD. 400 (REV. 4/0/2019)

OAL FILE NUMBERS	NOTICE FILE NUMBER <b>Z-2022-1024-01</b>	REGULATORY ACTION NUMBER 2023-0329-02C <i>R</i>	EMERGENCY NUMBER
For use by Office of Administrative Law (OAL) only			
NOTICE		REGULATIONS	

OFFICE OF ADMIN. LAW  
2023 MAR 29 PM 1:21ENDORSED - FILED  
in the office of the Secretary of State  
of the State of California

MAY 11 2023

3:14 PM

AGENCY WITH RULEMAKING AUTHORITY  
Department of Food and Agriculture

AGENCY FILE NUMBER (If any)

## A. PUBLICATION OF NOTICE (Complete for publication in Notice Register)

1. SUBJECT OF NOTICE		TITLE(S)	FIRST SECTION AFFECTED	2. REQUESTED PUBLICATION DATE
3. NOTICE TYPE <input type="checkbox"/> Notice re Proposed Regulatory Action <input type="checkbox"/> Other		4. AGENCY CONTACT PERSON	TELEPHONE NUMBER	FAX NUMBER (Optional)
OAL USE ONLY	ACTION ON PROPOSED NOTICE <input type="checkbox"/> Approved as Submitted <input type="checkbox"/> Approved as Modified <input type="checkbox"/> Disapproved/Withdrawn		NOTICE REGISTER NUMBER	PUBLICATION DATE

## B. SUBMISSION OF REGULATIONS (Complete when submitting regulations)

1a. SUBJECT OF REGULATION(S) Industrial Hemp		1b. ALL PREVIOUS RELATED OAL REGULATORY ACTION NUMBER(S) 2022-0422-02E, 2022-0629-01ER, 2023-0103-02C	
2. SPECIFY CALIFORNIA CODE OF REGULATIONS TITLE(S) AND SECTION(S) (Including title 26, if toxics related)			
SECTION(S) AFFECTED (List all section number(s) individually. Attach additional sheet if needed.)		ADOPT 4890, 4943, 4936, 4951, 4952	
		AMEND 4900, 4901, 4902, 4930, 4934, 4935, 4940, 4941, 4942, 4944, 4946, 4950, 4950.1	
TITLE(S) 3		REPEAL	
3. TYPE OF FILING			
<input type="checkbox"/> Regular Rulemaking (Gov. Code §11346) <input checked="" type="checkbox"/> Resubmittal of disapproved or withdrawn nonemergency filing (Gov. Code §§11349.3, 11349.4) <input type="checkbox"/> Emergency (Gov. Code, §11346.1(b))			
<input checked="" type="checkbox"/> Certificate of Compliance: The agency officer named below certifies that this agency complied with the provisions of Gov. Code §§11346.2-11347.3 either before the emergency regulation was adopted or within the time period required by statute. <input type="checkbox"/> Resubmittal of disapproved or withdrawn emergency filing (Gov. Code, §11346.1)			
<input type="checkbox"/> Emergency Readopt (Gov. Code, §11346.1(h)) <input type="checkbox"/> File & Print <input type="checkbox"/> Other (Specify)			
<input type="checkbox"/> Changes Without Regulatory Effect (Cal. Code Regs., title 1, §100) <input type="checkbox"/> Print Only			
4. ALL BEGINNING AND ENDING DATES OF AVAILABILITY OF MODIFIED REGULATIONS AND/OR MATERIAL ADDED TO THE RULEMAKING FILE (Cal. Code Regs. title 1, §44 and Gov. Code §11347.1) 3/9/2023 - 3/24/2023			
5. EFFECTIVE DATE OF CHANGES (Gov. Code, §§ 11343.4, 11346.1(d); Cal. Code Regs., title 1, §100 )			
<input type="checkbox"/> Effective January 1, April 1, July 1, or October 1 (Gov. Code §11343.4(a)) <input checked="" type="checkbox"/> Effective on filing with Secretary of State <input type="checkbox"/> \$100 Changes Without Regulatory Effect <input type="checkbox"/> Effective other (Specify)			
6. CHECK IF THESE REGULATIONS REQUIRE NOTICE TO, OR REVIEW, CONSULTATION, APPROVAL OR CONCURRENCE BY, ANOTHER AGENCY OR ENTITY			
<input type="checkbox"/> Department of Finance (Form STD. 399) (SAM §6660) <input type="checkbox"/> Fair Political Practices Commission <input type="checkbox"/> State Fire Marshal <input type="checkbox"/> Other (Specify)			
7. CONTACT PERSON Rachel Avila		TELEPHONE NUMBER 916-698-2947	FAX NUMBER (Optional) E-MAIL ADDRESS (Optional) rachel.avila@cdfa.ca.gov

8. I certify that the attached copy of the regulation(s) is a true and correct copy of the regulation(s) identified on this form, that the information specified on this form is true and correct, and that I am the head of the agency taking this action, or a designee of the head of the agency, and am authorized to make this certification.

SIGNATURE OF AGENCY HEAD OR DESIGNEE

Mark A. McLoughlin

Digitally signed by Mark A. McLoughlin  
Date: 2023.03.28 16:56:32 -0700

DATE

3/28/23

TYPED NAME AND TITLE OF SIGNATORY

Mark A. McLoughlin, Director Plant Health and Pest Prevention Services

For use by Office of Administrative Law (OAL) only

ENDORSED APPROVED

MAY 11 2023

Office of Administrative Law

**California Code of Regulations  
Title 3. Food and Agriculture  
Division 4. Plant Industry  
Chapter 8. Industrial Hemp Cultivation**

**Article 1. Registration of Industrial Hemp Growers**

**4890. Definitions.**

(a) For purposes of this chapter, the following definitions apply:

- (1) "Acceptable hemp THC level" means the total THC concentration that falls within the distribution or range that includes three-tenths of one percent or less that is produced when the measurement of uncertainty is applied to the reported THC concentration. For example, if the reported THC concentration of a sample is 0.35% and the measurement of uncertainty is  $\pm 0.06\%$ , the measured THC concentration would range from 0.29% to 0.41%. Because 0.3% is within the distribution or range, the sample is within the acceptable hemp THC level.
- (2) "Cannabis" has the same meaning as defined in subdivision (e) of Section 26001 of the Business and Professions Code.
- (3) "Central cola" means a cut stem that could develop into a bud of the flowering top of the plant.
- (4) "Criminal history report" means the Federal Bureau of Investigation's Identity History Summary.
- (5) "Cultivar" means a cultivated variety of industrial hemp.
- (6) "Cultivation" means the planting, growing, irrigation, or harvesting of an industrial hemp plant or crop.
- (7) "Cultivation site" means contiguous land area on which the applicant plans to engage in industrial hemp cultivation, storage, or both.
- (8) "Cultivator" means a person, or institution planting, cultivating, growing, irrigating, or harvesting industrial hemp plants or crop.
- (9) "Destroy" or "dispose" means an activity that transitions the ~~non-compliant~~ product into a non-retrievable or non-ingestible form. Such activities include plowing, tilling, or disking plant material into the soil; mulching, composting, chopping, or bush mowing plant material into green manure; burning plant material; burying plant material into the earth and covering with soil.

(10) "Disqualifying conviction" means any plea of guilty or nolo contendere, or any finding of guilt for a State or Federal felony related to a controlled substance, except:

(A) when the finding of guilt is subsequently overturned on appeal, pardoned, or expunged, or

(B) where an individual is allowed to withdraw an original plea of guilty or nolo contendere and enter a plea of not guilty and the case is subsequently dismissed.

(11) "Established agricultural research institution" means an institution of higher education, as defined in Section 101 of the federal Higher Education Act of 1965 (20 U.S.C. Sec. 1001), that grows, cultivates, or manufactures industrial hemp for purposes of agricultural or academic research. If the hemp to be registered is owned, or the cultivated land is owned or leased, by a party other than an established agriculture institution, then the applicant shall register as a grower.

(12) "Gross negligence" is defined as a lack of care that demonstrates reckless disregard for the safety or lives of others, which is so great it appears to be a conscious violation of other people's rights to safety.

(12) (13) "Grower" means a person that is registered with the commissioner to cultivate hemp.

(13) (14) "Harvest" means the collection of any portion of industrial hemp plant.

(14) (15) "Hemp breeder" means a person that is registered with the commissioner to develop cultivars intended for sale or research.

(15) (16) "Industrial hemp" or "hemp" means an agricultural product, whether growing or not, that is limited to types of the plant *Cannabis sativa* L. and any part of that plant, including the seeds of the plant and all derivatives, extracts, the resin extracted from any part of the plant, cannabinoids, isomers, acids, salts, and salts of isomers, with a total delta-9 tetrahydrocannabinol concentration of no more than 0.3 percent on a dry weight basis.

(16) (17) "Industrial hemp nursery stock" means any industrial hemp plant or any part of an industrial hemp plant for planting or propagation.

(17) (18) "Key participants" includes the registrant and means any person in the entity producing industrial hemp who is:

- (A) a sole proprietor, a partner in partnership, or a person with executive managerial control in a corporation producing industrial hemp, or
- (B) a person with executive managerial control over the entity producing industrial hemp, including persons such as a chief executive officer, chief operating officer and chief financial officer.
- (C) This definition does not include a person in a management position with no executive managerial control over the entity producing industrial hemp, such as farm, field, or shift managers.
- (D) For established agricultural research institutions, this definition does not include a person that is a member of the leadership of the established agricultural research institution unless the member of the leadership exercises executive managerial control over the hemp production.

~~(18)~~ (19) "Measurement of uncertainty" means the parameter associated with the result of a measurement that characterizes the dispersion of the values that could reasonably be attributed to the particular quantity subject to measurement.

~~(19)~~ (20) "Person" means any individual, partnership, association, corporation, limited liability company, or any organized group of persons whether incorporated or not.

~~(20)~~ (21) "Premises" has the same meaning as defined in subdivision (aq) of Section 26001 of the Business and Professions Code.

(22) "Recklessness" is defined as a lack of regard for the danger or consequences of one's actions

(23) "Registration class" means the status of a registration as either a grower, hemp breeder, or established agricultural research institution.

~~(21)~~ (24) "Research plan" means a strategy devised by an established agricultural research institution, or applicant established agricultural research institution, detailing its approach to growing or cultivating hemp for academic or agricultural research. Agricultural and academic purposes do not include proprietary development.

~~(22)~~ (25) "THC concentration" or "percentage concentration of THC" or "Total THC" means the post- decarboxylated value of the percentage of delta-9 THC content derived from the sum of THC and THCA (Tetrahydrocannabinolic acid) content and reported on a dry weight basis to the nearest thousandth, or three decimal places. The percentage concentration of THC may be measured by using either:

(E) a suitable analytical instrumentation described in Section 4942(b) that results in the decarboxylation of THC-acid to delta-9 THC, or

(F) a calculated value using a conversion formula of the percentage concentration of delta-9 THC plus eighty-seven and seven tenths (87.7) percent of the percentage concentration of THC-acid when a suitable analytical instrumentation described in Section 4942(b) does not result in the decarboxylation of THC-acid to delta-9 THC.

~~(23)~~ (26) "Tissue culture" means in vitro material introduced into culture from nodal cuttings at a particular time and from a single plant and grown in aseptic conditions to be used as a source of propagative plant material.

~~(24)~~ (27) "Valid registration" means the registration is unexpired, unsuspended, and unrevoked.

~~(25)~~ (28) "Variety development plan" means a strategy devised by a hemp breeder, or applicant hemp breeder, detailing their approach to growing and developing anew cultivar for industrial hemp.

Note: Authority cited: Sections 407, 81003, 81004, 81004.5, 81006, and 81013, Food and Agricultural Code.

Reference: Sections 407, 81003, 81004, 81004.5, 81006, and 81013, Food and Agricultural Code.

#### **4900. Registration Fees.**

- (a) The Secretary establishes the following fees for registration of growers of industrial hemp and hemp breeders to be submitted along with the registration application as authorized in sections 81003 and 81004 of the Food and Agricultural Code:
  - (1) Prior to cultivation, a fee of nine-hundred dollars (\$900) per applicant shall be submitted with the application to the commissioner.
  - (2) A separate registration is required for each county in which the applicant intends to grow industrial hemp.
  - (3) This registration is valid for one year from date of issuance by the commissioner.
- (b) The Secretary establishes the following fee for registration renewal of growers of industrial hemp and hemp breeders:

- (1) Upon expiration of registration, a fee of nine-hundred dollars (\$900) per registrant shall be due to the commissioner in each county in which the applicant intends to continue to grow industrial hemp.
- (2) Renewed registration is valid for one year from date of issuance of renewal by the commissioner.

Note: Authority cited: Sections 407, 483, and 81005, Food and Agricultural Code.  
Reference: Sections 81003, 81004, and 81005, Food and Agricultural Code.

#### **4901. Registration Application for Industrial Hemp**

##### **(a) Registration.**

- (1) Any person cultivating industrial hemp must have a valid registration prior to cultivation.
- (2) ~~Except for an established agricultural research institution subject to Food and Agricultural Code Section 81004.5 or a hemp breeder subject to Food and Agricultural Code Section 81004, a~~ A grower of industrial hemp, before cultivation, shall register with the commissioner of the county in which the grower intends to engage in industrial hemp cultivation. The registration application for growers of industrial hemp shall include:
  - (A) the name, physical address, and contact information of the applicant, including mailing address, telephone number, and email (if available),
  - (B) the business type (sole proprietor, partnership, corporation, limited liability company, or specified other type), business name(s) including all DBAs ("doing business as"), principal business address, and the employer identification number (EIN) of the business entity as provided by the Internal Revenue Service,
  - (C) the name(s), title(s), and email(s) (if available) of all key participants,
  - (D) the legal description, Global Positioning System coordinates, size, and map of the cultivation site(s),
  - (E) the approved cultivar to be grown, including the state or country of origin, and supporting documentation to demonstrate compliance with Section 4920, and
  - (F) the applicant's signature certifying the following:
    1. the information provided on the application is true and correct,
    2. the cultivation site(s) to be registered for industrial hemp cultivation is not on premises licensed by the Department of Cannabis Control to cultivate or process cannabis,

3. the applicant shall comply with all the requirements outlined in Division 24 of the Food and Agricultural Code and this chapter, and
  4. any changes to the registration shall be provided to the commissioner in accordance with Section 4901(b).
- (3) ~~Except for an established agricultural research institution subject to Food and Agricultural Code Section 81004.5 or a grower of industrial hemp subject to Food and Agricultural Code Section 81003, a~~ A hemp breeder, before cultivation, shall register with the commissioner of the county in which the hemp breeder intends to engage in industrial hemp cultivation. The registration application for hemp breeders shall include:
- (A) the name, physical address, and contact information of the applicant, including mailing address, telephone number, and email (if available),
  - (B) the business type (sole proprietor, partnership, corporation, limited liability company, or specified other type), business name(s) including all DBAs ("doing business as"), principal business address, and the employer identification number (EIN) of the business entity as provided by the Internal Revenue Service,
  - (C) the name(s), title(s), and email(s) (if available)-of all key participants,
  - (D) the legal description, Global Positioning System coordinates, size, and map of the cultivation site(s),
  - (E) a variety development plan, which shall include:
    1. the name of the seed-certifying agency that will be conducting the certification if a new cultivar is to be certified by a seed-certifying agency,
    2. the hemp varieties that will be used and, if applicable, how those varieties will be used in the development of a new cultivar,



3. a plan for testing the THC concentration of a representative sample of the plants grown,
    - a. Industrial hemp produced by registered hemp breeders that does not enter the stream of commerce shall be sampled in accordance with the sampling procedures outlined in Sections 4940 through 4941 and tested in accordance with the testing procedures outlined in Sections 4942 through 4944, but shall not be subject to the sampling requirements outlined in Section 4941(b) if the proposed sampling method to test THC concentration has the potential to ensure, at a confidence level of 95 percent, that the plants grown will not test above the acceptable hemp THC level pursuant to Part 990.3 in Title 7 of the Code of Federal Regulations (October 31, 2019) which is hereby incorporated by reference, and
    - b. Industrial hemp produced by registered hemp breeders that enters the stream of commerce shall be sampled in accordance with the sampling procedures outlined in Sections 4940 through 4941 and tested in accordance with the testing procedures outlined in Sections 4942 through 4944.
  4. the measures that will be taken to destroy any plants with THC concentrations that test above the acceptable hemp THC level, given that
    - a. Any hemp destruction shall be conducted in accordance with Section 297B of the federal Agricultural Marketing Act of 1946 (added by Section 10113 of the federal Agriculture Improvement Act of 2018 (December 20, 2018) (Public Law 115-334)), implementing regulations, and guidance which is hereby incorporated by reference.
  5. the measures that will be taken to prevent the unlawful use of hemp under Division 24 of the Food and Agricultural Code and this chapter,
  6. a procedure for the maintenance of records documenting the development of the new cultivar, and
- (F) the applicant's signature certifying the following:
1. the information provided on the application is true and correct,
  2. the cultivation site(s) to be registered for industrial hemp cultivation is not on premises licensed by the Department of Cannabis Control to cultivate or process cannabis,

3. the applicant shall comply with all the requirements outlined in Division 24 of the Food and Agricultural Code and this chapter, and
  4. any changes to the registration shall be provided to the commissioner in accordance with Section 4901(b).
- (4) ~~Except for a grower of industrial hemp subject to Food and Agricultural Code Section 81003 or a hemp breeder subject to Food and Agricultural Code Section 81004, an~~ An established agricultural research institution, before cultivation, shall register with the commissioner of the county in which the established agricultural research institution intends to engage in industrial hemp cultivation. Subsection (b)(4) shall become operative as of the date on which a state plan for California is approved in accordance with Food and Agricultural Code Section 81004.5(h). The registration application for established agricultural research institutions shall include:
- (A) the name, physical address, and contact information of the applicant, including mailing address, telephone number, and email (if available),
  - (B) the business type (sole proprietor, partnership, corporation, limited liability company, or specified other type), business name(s) including all DBAs ("doing business as" designations), and principal business address,
  - (C) the name(s), title(s), and email(s) (if available) of all key participants,
  - (D) the legal description, Global Positioning System coordinates, size, and map of the cultivation site(s),
  - (E) a research plan, which shall include:
    1. the hemp varieties that will be used and, if applicable, how those varieties will be used for the purposes of agricultural or academic research,
    2. a plan for testing a representative sample of the plants grown cultivated,
      - a. Industrial hemp produced by registered established agricultural research institutions that does not enter the stream of commerce shall ~~not be subject~~ sampled in accordance with to the sampling requirements procedures outlined in Sections 4940 through 4941(b) if and tested in accordance with the testing procedures outlined in Sections 4942 through 4944, but shall not be subject to the sampling requirements outlined in Section 4941(b) if the proposed the sampling method to test THC concentration has the potential to ensure, at a

confidence level of 95 percent, that the plants grown will not test above the acceptable hemp THC level, and is adopted by the department and approved by the United States Department of Agriculture pursuant to Part 990.3 in Title 7 of the Code of Federal Regulations (October 31, 2019) which is hereby incorporated by reference, and

- b. Industrial hemp produced by registered established agricultural research institutions that enters the stream of commerce shall be sampled in accordance with the sampling procedures outlined in Sections 4940 through 4941 and tested in accordance with the testing procedures outlined in Sections 4942 through 4944,
  - 3. the measures that will be taken to destroy any plants with THC concentrations that test above the acceptable hemp THC level, given that,
    - a. Any hemp destruction shall be conducted in accordance with Section 297B of the federal Agricultural Marketing Act of 1946 (added by Section 10113 of the federal Agriculture Improvement Act of 2018 (December 20, 2018) (Public Law 115-334)), implementing regulations, and guidance which is hereby incorporated by reference,
    - b. Registered established agricultural research institutions registered with the United States Drug Enforcement Administration to handle marijuana may possess industrial hemp with a laboratory test report that indicates a percentage concentration of THC that is greater than the acceptable hemp THC level if the possession contributes to the development of types of industrial hemp that will fall within the acceptable hemp THC level, until the end of the study, at which point the industrial hemp testing greater than the acceptable hemp THC level must be disposed of according to Section 4901(a)(4)(E)3.a.
  - 4. a procedure for the maintenance of records documenting the agricultural or academic research, and
- (F) the applicant's signature certifying the following:
- 1. the information provided on the application is true and correct,

2. the cultivation site(s) to be registered for industrial hemp cultivation is(are) not on premises licensed by the Department of Cannabis Control to cultivate or process cannabis,
  3. the applicant shall comply with all the requirements outlined in Division 24 of the Food and Agricultural Code and this chapter, and
  4. any changes to the registration shall be provided to the commissioner in accordance with Section 4901(b).
- (5) Each registration application, except for established agricultural research institutions, shall be accompanied with the registration or renewal fee in accordance with Section 4900.
- (6) Each registration application shall be accompanied by criminal history reports for all key participants in accordance with Section 4902.
- (b) Alterations or changes to registration.
- (1) Registration is non-transferrable to another person. A new registration application shall be submitted in accordance with Section 4901(a) for any change in ownership of the business or registered plants.
  - (2) Registrants shall submit an updated registration application to the commissioner for any of the following alterations or changes:
    - (A) Any alterations or changes to business name, contact information, or key participants must be submitted within 15 calendar days of the change.
    - (B) Any alterations or changes to cultivation sites, approved cultivars, variety development plans, or research plans, must be approved by the commissioner prior to planting.
  - (3) Any alterations or changes not submitted to the commissioner in accordance with the specified timeframes outlined in Section 4901(b) shall result in the existing crop being considered non-compliant and subject to destruction in accordance with Section 4950.
  - (4) If a registration class changes after approval it will be considered a new registration and a new review will be needed and new fee will be assessed.
- (c) Registration renewal.
- (1) A registrant shall submit a registration application in accordance with the registration procedures outlined in Section 4901(a) to the commissioner in each

county in which the applicant intends to renew the registration at least 30 calendar days prior to the expiration of registration. Renewal applications received less than 30 calendar days from registration expiration may result in noncompliance with Section 4901(a).

- (2) If the registration application for renewal is received less than 30 calendar days from registration expiration and registration is not renewed prior to registration expiration, any existing plantings shall be considered noncompliant with Section 4901(a) upon registration expiration.

(d) A single cultivation site cannot be registered for multiple registration classes.

(1) For example, a single cultivation site cannot be registered as both a grower and breeder cultivation site.

(2) A single cultivation site cannot be registered multiple times if more than one of the registrations are effective (not denied, revoked, or suspended). For example, a cultivation site cannot be registered to two different cultivators in separate registrations that are effective at the same time.

(e) ~~(e)~~ Commissioner approval, refusal, or revocation.

- (1) Once the commissioner receives the application in accordance with the registration procedures outlined in Section 4901(a) and Section 4901(b) for registration, registration amendment, or renewal and determines that the registration requirements pursuant to Division 24 of the Food and Agricultural Code and this chapter are met, the commissioner shall issue a registration to the applicant and notify the registrant that the key participants as defined in Section 4890(a)(178) with no disqualifying convictions may cultivate hemp using the registered cultivar(s), cultivation site(s), research plan(s), and variety development plan(s). For new registrations and registration amendments, the commissioner shall issue such registration and notice within 30 calendar days from the application submission date. For registration renewals, the commissioner shall issue such registration and notice prior to registration expiration, unless the application is received less than 30 calendar days prior to registration expiration, in which case the commissioner shall issue the registration and notice as soon as reasonably possible but not necessarily before expiration.
- (2) The commissioner may verify the registration application by conducting field inspections. The commissioner shall be provided with complete and unrestricted access during business hours to all hemp and other cannabis plants, whether growing or harvested, and all land, buildings, and other structures used for the cultivation, handling, and storage of all hemp and other cannabis plants, and all locations registered as a cultivation site.

(3) If the commissioner determines that the application for registration or renewal does not meet the registration requirements outlined in Division 24 of the Food and Agricultural Code and this chapter, the commissioner shall provide written notification to the applicant of the deficiencies in the application. If the deficiency is a lack of requested information, the applicant shall have 30 calendar days from the receipt of the notification to provide the requested information to the commissioner. If the requested information is not provided within the timeframe, the commissioner shall deny registration.

(A) If registration is denied due to deficiencies in the application for registration or renewal, the applicant must submit a new application and registration or renewal fee (if applicable) to the commissioner in order to register to cultivate hemp.

(ef) The following information shall be transmitted by the commissioner to the department no more than 10 business days, and submitted by the department to the United States Department of Agriculture no more than 30 business days, after the date on which it is collected, or, in the case of subparagraph (b), the date of a change in registration status:

(1) the name and contact information for each registrant,

(2) the employer identification number (EIN) of the business entity as provided by the Internal Revenue Service,

(3) a legal description of the land on which the registrant engages in hemp cultivation,

(4) the registration status of the registrant,

(5) the registration number for each registrant associated with each location in the state where hemp will be produced, and

(6) the name, business title, and email address (if available) of all key participants for each registration.

(fg) The department and the commissioner shall retain information collected under this section for at least three years after collecting or receiving it.

Note: Authority cited: Sections 407, 81003, 81004, 81004.5, 81005, 81006, and 81013, Food and Agricultural Code.

Reference: Sections 81003, 81004, 81004.5, 81005, 81006, and 81013, Food and Agricultural Code.

#### **4902. Criminal History Report for Industrial Hemp Registration.**

(a) Registration requirements.

- (1) A criminal history report for each key participant listed pursuant to Section 4901 shall be submitted along with the application in accordance with the registration procedures outlined in Section 4901(a) for registration, registration amendment, or renewal to the commissioner. A registration application will not be considered complete without all required criminal history reports.
- (2) Any changes to key participants must be reported along with criminal history reports for any additional key participants to the commissioner as an amendment to the registration within 15 calendar days of the change.
- (3) All criminal history reports must be dated within 60 calendar days of submission of the application for registration, registration amendment, or renewal.
- (4) Registrants shall notify the commissioner in writing within 48 hours of the registrant or a key participant receiving a disqualifying conviction.
- (5) If an applicant, registrant, or key participant is found to have a disqualifying conviction the applicant or key participant shall be ineligible to participate in the hemp program for ten (10) years from the date of the conviction.
- (6) Any falsification of criminal history reports shall be considered as materially falsifying information in an application or registration and shall result in revocation or refusal of registration and ineligibility to participate in the industrial hemp program.
- (7) The commissioner may require additional criminal history reports during the registration period as deemed necessary to ensure all registered key participants do not have a disqualifying conviction.

Note: Authority cited: Sections 407, 81003, 81004, 81004.5, and 81013, Food and Agricultural Code.

Reference: Sections 81003, 81004, 81004.5, 81013, and 81014, Food and Agricultural Code.

### **Article 2. Regulations for Industrial Hemp Cultivation**

#### **4930. Inspections of Industrial Hemp.**

- (a) The commissioner shall conduct annual inspections of a random group of registrants to verify that industrial hemp is not produced in violation of Division 24 of the Food and Agricultural Code and this chapter.
- (b) The commissioner shall be provided with complete and unrestricted access during business hours to all hemp and other *Cannabis* sp. plants, whether growing or harvested, and all land, buildings, and other structures used for the cultivation, handling, and storage of all hemp and other *Cannabis* sp. plants, and all locations registered as a cultivation site.
- (c) Registered hemp breeders and registered established agricultural research institutions shall provide records that document the varietal development or research activities conducted under the approved plan upon the request of the commissioner.
- (d) Based on the findings of the inspection, if there is any violation, as determined by the commissioner, the commissioner shall use their authority to revoke registration, order destruction, or issue a notice of violation.

Note: Authority cited: Sections 407, 81003, 81004, 81004.5, and 81006, Food and Agricultural Code

Reference: Sections 81006, Food and Agricultural Code

#### **4934. Planting Location Requirements.**

- (a) Except when grown by a registered established agricultural research institution or a registered hemp breeder, the industrial hemp shall be grown in acreages of not less than one-tenth of an acre ~~at the same time~~.
- (b) All plantings shall have signage ~~indicating stating they are "industrial hemp".~~ The signs shall be posted so that they are visible at all usual points of entry to the site, including each road, footpath, walkway, or aisle.
- (c) The cultivation site(s) to be registered for industrial hemp cultivation is not on premises licensed by the Department of Cannabis Control to cultivate or process cannabis.

Note: Authority cited: Sections 407, 81003, 81004, 81004.5, and 81006, Food and Agricultural Code

Reference: Sections 81006, Food and Agricultural Code

#### **4935. Planting Report for Industrial Hemp.**

- (a) In order to confirm that industrial hemp was planted at a registered cultivation site, registrants shall submit a signed planting report to the commissioner within 72 hours



following the completion of the planting. A separate planting report shall be completed for each planting. The planting report shall include the:

- (1) registrant's registration number,
  - (2) name and contact information of the registrant,
  - (3) planting date(s),
  - (4) name(s) of the cultivar(s) and the quantity planted,
  - (5) physical address, Global Positioning System coordinates, general description of the planting location, and total acreage or square footage of the planting, and
  - (6) planned growing period for each cultivar planted.
- (b) The Department shall make a template of a planting report form available on the Department's website.
- (c) The commissioner may confirm the planting of the crop by conducting field inspections. The commissioner shall be provided with complete and unrestricted access during business hours to all hemp and other cannabis plants, whether growing or harvested, and all land, buildings, and other structures used for the cultivation, handling, and storage of all hemp and other cannabis plants, and all locations registered as a cultivation site.
- (d) All registrants shall report on all hemp production in the state and any changes to where hemp will be produced to the United States Department of Agriculture Farm Service Agency within 30 calendar days of completion of a planting and shall provide, at minimum, all of the following information and changes:
- (1) registrant's registration number,
  - (2) physical address, Global Positioning System coordinates, general description of the planting location, and
  - (3) acreage dedicated to the production of hemp, or greenhouse or indoor square footage.

Note: Authority cited: Sections 407, 81003, 81004, 81004.5, 81004.6, and 81006, Food and Agricultural Code

Reference: Sections 81006, Food and Agricultural Code

#### **4936. Movement of Industrial Hemp Nursery Stock.**

- (a) No less than 72 hours prior to the movement of industrial hemp nursery stock from its registered cultivation site or a change in ownership of the industrial hemp nursery stock, except for seed, the registrant shall sign and complete a transfer form, provided by the commissioner of the county where the industrial hemp nursery stock is registered, return the completed form to the commissioner, and:

- (1) for movement or change of ownership within California, submit the completed form to the commissioner of the destination county, if different than the county of origin, or
  - (2) for interstate movement or change in ownership, submit the completed form to the destination state's department of agriculture.
- (b) The transfer form shall include:
- (1) originating registrant's name, registration number, contact information, and physical address of the origin site,
  - (2) receiving registrant's name, registration number, contact information, physical address of the destination site,
  - (3) anticipated start and end date of the movement or date of change in ownership, and
  - (4) name and number of each cultivar of plants moved or transferred to new ownership.
- (c) The bill of lading shall be provided to the Department, the commissioner, or local law enforcement upon request.
- (d) The shipment is subject to inspection by the commissioner and shall not be used for cultivation until released by the commissioner (California Food and Agricultural Code Division 4, Part 2, Chapter 2 § 6401 and § 6501).

Note: Authority cited: Sections 407, 81003, 81004, 81004.5, and 81006, Food and Agricultural Code  
Reference: Sections 81006, Food and Agricultural Code

#### **4940. Sampling Timeframe and Pre-Harvest Notification for Industrial Hemp.**

- (a) Sampling Timeframe.
- (1) Samples shall be collected no more than 11 calendar days prior to the anticipated harvest start date listed on the ~~pre-harvest report~~ Sample Analysis Request Form.
  - (2) Any changes to the harvest date that result in harvest activities to occur more than 30 calendar days after the sample collection date shall require additional sampling for THC concentration prior to harvest.
- (b) ~~Sampling Request and Pre-Harvest Report~~ Sample Analysis Request.

(1) In order to request sampling, registrants shall submit a signed pre-harvest report Sample Analysis Request Form for each composite sample to be taken to the commissioner at least 30 calendar days before the anticipated harvest start date to initiate the sampling process. The Sample Analysis Request Form shall include:

~~(2) A separate pre-harvest report shall be completed for each planting to be harvested. The pre-harvest report shall include the:~~

~~(A) registrant's registration number,~~

~~(B) name and contact information of the registrant,~~

~~(C) anticipated harvest start date,~~

~~(D) name(s) of the cultivar(s) to be harvested,~~

~~(E) physical address, Global Positioning System coordinates, general description of the planting location, and total acreage or square footage of the planting to be harvested, and~~

~~(F) name and contact information of the laboratory to conduct the testing for THC concentration.~~

~~(3) The pre-harvest report shall be accompanied by a sample analysis request form for each composite sample to be taken. The sample analysis request form shall be used to record the following information during the sampling and testing process:~~

~~(A) name, contact information, and signature of the sample analysis requester,~~

~~(B) registrant's registration number,~~

~~(C) name and contact information of the commissioner~~

~~(D) physical address, general description of the planting location, and total acreage or square footage of the planting sampled,~~

~~(E) lot identification number as provided by United States Department of Agriculture Farm Service Agency,~~

~~(F) the anticipated harvest start date~~

~~(F) G name of the cultivar sampled,~~

(GH)description of the planting to be sampled including estimated average height, appearance, approximate density, homogeneity, condition of the plants, and degree of maturity of flowering material,

(HI)unique sample identification number for the composite sample,

(IJ)number of the samples taken,

(JK)date and time of the sample collection,

(KL)name and signature of the sampler,

(LM)name and contact information of the approved laboratory conducting the THC testing,

(MN)name and signature of the person testing the sample,

(NO)date and time of the sample testing,

(OP)testing instrumentation used to analyze the sample for THC concentration,

(PQ)laboratory determination of THC concentration in accordance with Section 4890(a)(225) and limit of detection (LOD), and

(QR)chain of custody information including the name and signature of the person who received and delivered the sample, and the date, time, and location of each possession or transfer of the sample.

(42)The Department shall make a template of a ~~pre-harvest report and sample~~ analysis request form available on the Department's website.

(53) The sampler, as described in Section 4941(a)(1), shall schedule a sampling date.

(64)Registrants shall notify the commissioner of any changes to the above information no less than two calendar days prior to the scheduled sampling date.

Note: Authority cited: Sections 407 and 81006, Food and Agricultural Code  
Reference: Section 81006, Food and Agricultural Code

#### **4941. Sampling Procedures for Testing Industrial Hemp for THC Concentration.**

##### **(a) Collection of Samples.**

(1) Samples for THC testing shall be collected by USDA-certified samplers.  
Samples shall not be collected by a hemp registrant or key participant.

(A) All samplers shall complete training using USDA training procedures and submit the certificate of completion electronically to the Department to the email [industrialhemp@cdfa.ca.gov](mailto:industrialhemp@cdfa.ca.gov).

(B) The Department shall maintain a publicly available list of USDA-certified samplers on the Department's website.

- (2) Prior to the collection of the samples, the sampler as described in Section 4941(a)(1) shall verify that the planting to be sampled corresponds to the registered cultivation site using the physical address, Global Positioning System coordinates, general description, and total acreage or square footage provided on the pre-harvest report and registration application.
- (3) The registrant or an authorized representative of the registrant shall be present to observe the collection of samples and shall allow the sampler as described in Section 4941(a)(1), complete and unrestricted access during business hours to all hemp and other cannabis plants, whether growing or harvested, and all land, buildings, and other structures used for the cultivation, handling, and storage of all hemp and other cannabis plants, and all locations registered as a cultivation site.

(b) Sample Volume and Composition.

- (1) Each sample shall be collected from different plants. Each sample shall consist of the terminal eight inches from the main stem that includes leaves and flowers, terminal bud that occurs at the end of a stem, or central cola. If the plant is less than eight inches tall, the whole plant above ground shall be taken.
- (2) A composite sample shall consist of the following:
  - (A) one sample from each plant for plantings that have fewer than six plants.
  - (B) six samples for plantings that are less than or equal to six acres.
  - (C) one sample from each acre for plantings that are greater than six acres but less than 10 ten acres.
  - (D) For plantings equal to or greater than ten acres, the number of samples shall be calculated at a confidence level of 95 percent that the plants grown will not test above the acceptable hemp THC level, using the following

formula where n is the number of plants to be selected and N is the planting acreage:

$$n = 299 / (1 + (298 / N))$$

(3) A separate composite sample shall be taken for:

- (A) each cultivar within each contiguous planting, and
- (B) indoor and outdoor growing areas shall be treated as separate plantings.

(c) Handling of Samples.

- (1) All plant material collected for a composite sample shall be placed together in a permeable bag, and kept in a manner not conducive to mold growth. Each composite sample shall be stored in separate bags.
- (2) The bag containing the composite sample shall be sealed and labeled in a manner to detect tampering and ensure chain of custody. Sample labels shall be signed by both the registrant and the sampler as described in Section 4941(a)(1).
- (3) Samples shall be labeled with a unique sample identification number as assigned on the sample analysis request form and accompanied by the following documentation:
  - (A) registrant's proof of registration,
  - (B) pre-harvest report,
  - (C) sample analysis request form containing information outlined in Sections 4940(b)(31)(B) through 4940(b)(31)(L) provided by the commissioner and Section 4940(b)(31)(A) provided by the registrant.
- (4) Samples shall be delivered to the testing laboratory within 24 hours of collection.

Note: Authority cited: Sections 407 and 81006, Food and Agricultural Code  
Reference: Section 81006, Food and Agricultural Code

#### **4942. Approved Testing Method for Testing Industrial Hemp for THC Concentration**

(a) Sample Preparation.

- (1) The laboratory shall maintain chain of custody upon receiving the samples by documenting the chain of custody information on the sample analysis request

form. The laboratory shall provide the information outlined in Sections 4940(b)(31)(M) through 4940(b)(31)(Q) on the sample analysis request form.

- (2) The laboratory shall check the sample for any signs of tampering. The laboratory shall immediately notify the commissioner and not test the sample if there is evidence of tampering. New samples shall be collected and submitted to the laboratory for testing in accordance with the procedures outlined in Section 4941.
- (3) Each composite sample shall be maintained and tested separately for THC concentration.
- (4) All plant material included in the composite sample shall be processed and tested as a single sample.
- (5) Each composite sample shall be tested for THC concentration on dry weight basis. The laboratory can either:

:

(A) Dry all plant material included in the composite sample until the weight of the composite sample remains constant after drying intervals (typically five to 12 percent moisture content). Drying temperature shall not exceed 90 degrees Celsius. The moisture content shall be expressed as the ratio of the amount of moisture in the sample to the amount of dry solid in the sample; or

(B) Analyze the moisture content of the sample and factor the measured moisture content into the THC concentration for a dry weight basis by using the following formula:

THC concentration on dry weight basis = THC concentration of the wet sample /  $(1.0 - (\text{percentage weight of the wet sample}/100))$ .

- (6) All of the dried plant material included in the composite sample shall be ground using a centrifugal rotor mill or a similar method to mill and combine the sample into a homogenous powder-like consistency before analysis.
- (b) Suitable analytical instrumentation used to determine THC concentration in industrial hemp includes the following:
- (1) gas chromatography with flame ionization detector,

- (2) gas chromatography coupled with mass spectrometry,
- (3) liquid chromatography coupled with mass spectrometry, or
- (4) liquid chromatography coupled with diode-array or variable wavelength detector.

(c) Sample Retention and Disposal.

- (5) If the laboratory test report indicates a percentage concentration of THC that is equal to or less than the acceptable hemp THC level, the laboratory shall retain the sample for a minimum of 30 calendar days from the testing date.
- (6) If the laboratory test report indicates a percentage concentration of THC that exceeds the acceptable hemp THC level, the laboratory shall retain the sample for a minimum of 60 calendar days from the testing date. Between 60 and 120 calendar days from testing date, the laboratory shall destroy the samples in a manner compliant with Section 297B of the federal Agricultural Marketing Act of 1946 (added by Section 10113 of the federal Agriculture Improvement Act of 2018 (December 20, 2018) (Public Law 115-334)) which is hereby incorporated by reference.

Note: Authority cited: Sections 407 and 81006, Food and Agricultural Code  
Reference: Section 81006, Food and Agricultural Code

**4943. Approved Laboratory for Testing Industrial Hemp for THC Concentration**

- (a) Testing of industrial hemp for THC concentration shall be conducted by a laboratory with International Organization for Standardization (ISO) / International Electrotechnical Commission (IEC) 17025 accreditation using a validated method in accordance with Sections 4942, 4944, and 4945 for THC analysis on plant material from an accreditation body that is a signatory to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement.
  - (1) Laboratories testing industrial hemp for THC concentration shall register with the United States Drug Enforcement Administration no later than December 31, 2022.
  - (2) Laboratories shall meet the AOAC International Standard Method Performance Requirements (SMPR) for Quantitation of Cannabinoids in Plant Materials of Hemp (Low THC Varieties *Cannabis* sp.) (SMPR 2019.003, October 9, 2019), which is hereby incorporated by reference, for each testing method used.
- (b) A laboratory shall obtain written approval from the Department before testing industrial hemp for THC concentration. A laboratory shall submit a signed laboratory approval application with the following information to the Department for review and approval:
  - (1) name and contact information of the applicant,



- (2) name and physical address of the testing laboratory,
  - (3) starting December 31, 2022, a copy of the testing laboratory's DEA registration certificate, if applicable,
  - (4) a copy of the testing laboratory's ISO/IEC 17025 certificate of accreditation,
  - (5) a copy of the testing laboratory's ISO/IEC 17025 scope of accreditation,
  - (6) a copy of the testing laboratory's standard operating procedures for THC testing, and
  - (7) a copy of the laboratory sample test report in accordance with Section 4944(b).
- (c) Once the Department receives the application for approval or renewal in accordance with the application procedures outlined in Section 4943(b) for approval or renewal and determines that the requirements outlined in this section are met and the laboratory's standard operating procedures for THC testing and sample test report comply with the requirements outlined in Sections 4942, 4944, and 4945, the Department shall approve the laboratory to conduct THC testing on industrial hemp using the approved standard operating procedures in 4943(b)(6) for THC testing and laboratory test report by issuing a proof of approval, and adding the testing laboratory to the list of approved testing laboratories.
- (d) If the Department determines that the application for approval or renewal does not meet the testing laboratory requirements outlined Division 24 of the Food and Agricultural Code and this chapter, the Department shall provide written notification to the laboratory applicant of the deficiencies in the application. If the deficiency is a lack of requested information required in 4943(b), the applicant laboratory shall have 30 calendar days from the receipt of the notification to provide the requested information to the Department. If the requested information is not provided within the timeframe, the Department will deny approval.
- (1) If laboratory approval is denied due to deficiencies in the application for approval or renewal, the applicant must submit a new application to the Department in order to obtain approval to test industrial hemp for THC concentration.
- (e) If the Department determines that the approved testing laboratory no longer meets the testing laboratory requirements outlined in Division 24 of the Food and Agricultural Code and this chapter, the Department shall revoke the approval and provide written notification to the laboratory applicant regarding the revocation. The revocation is effective as of the date on the notification.
- (f) Laboratory approval shall be valid for one year from date of approval by the Department, after which the laboratory shall renew the approval.
- (g) Laboratories shall request renewal of Department approval in accordance with the procedures outlined in Section 4943(b). Renewed approval shall be valid for one year

from date of renewal by the Department.

(h) Any changes to the approved laboratory's standard operating procedures shall be submitted to the Department for review and approval prior to implementation. Once the Department has determined that the requirements outlined in this section are met and the laboratory's standard operating procedures comply with testing requirements outlined in Sections 4942, 4944, and 4945, the Department shall notify the laboratory that testing may be completed under the revised standard operating procedures.

(i) The Department shall make a template of a laboratory application and the list of approved testing laboratories available on the Department's website.

Note: Authority cited: Sections 407 and 81006, Food and Agricultural Code

Reference: Section 81006, Food and Agricultural Code

#### **4944. Notification of Laboratory Test Report.**

(a) Laboratories shall issue a separate laboratory test report for each composite sample.

(b) The laboratory test report shall include the:

(1) registration number,

(2) unique sample identification number as assigned on the sample analysis request form,

(3) name and contact information of the registrant,

(4) name of the sampler,

(5) dates and times of the sample collection, testing, and test report,

(6) name of the cultivar tested,

(7) physical address, Global Positioning System coordinates, general description of the planting location, and total acreage or square footage of the planting sampled,

(8) lot identification number as provided by United States Department of Agriculture Farm Service Agency,

(9) name and contact information of the laboratory,

(10) name of approved analytical instrumentation used and the limit of detection (LOD),

(11) name of the person who received the sample,

- (12) name of the person who tested the sample
- (13) DEA registration number of the laboratory, if applicable,
- (14) identification of a retest, if applicable,
- (15) percentage concentration of THC in accordance with Section 4890(a)(225),
- (16) measurement of uncertainty as a  $\pm$  percentage value to the nearest thousandth, or three decimal places, at 95% confidence level,
- (17) the words "OFFICIAL CALIFORNIA REGULATORY SAMPLE",
- (18) and words "PASSED AS CALIFORNIA INDUSTRIAL HEMP" or "FAILED AS CALIFORNIA INDUSTRIAL HEMP" at or near the top of page.
  - (A) If the laboratory test report indicates a percentage concentration of THC that is within the acceptable hemp THC level, the words "PASSED AS CALIFORNIA INDUSTRIAL HEMP" shall appear.
  - (B) If the laboratory test report indicates a percentage concentration of THC that is greater than the acceptable hemp THC level, the words "FAILED AS CALIFORNIA INDUSTRIAL HEMP" shall appear.
- (c) Laboratories shall provide an electronic copy of the laboratory test report to the registrant and commissioner concurrently within 10 calendar days of the collection of samples.
- (d) Following the electronic notification of the laboratory test report, the laboratory shall:
  - (1) report the results for all samples required to be tested to the United States Department of Agriculture,
  - (2) provide the registrant no fewer than ten original paper copies with wet signatures of a passing laboratory test report, signed by an employee authorized to sign by the laboratory,
  - (3) provide the registrant one or more paper copies of a failed laboratory test report, signed by an employee authorized to sign by the laboratory;
- (e) Upon request from the commissioner, the laboratory shall provide a copy of the completed sample analysis request form.
- (f) The laboratory shall retain one or more original copies of each laboratory test report and the completed sample analysis request form for a minimum of three years from the date of sampling.

Note: Authority cited: Sections 407 and 81006, Food and Agricultural Code

**4946. Final Disposition for Registered Industrial Hemp Crops.**

- (a) Registrants shall harvest the sampled crop only upon receipt of an electronic copy of a passing laboratory test report.
  - (1) Registrants shall submit a harvest report to the commissioner within 72 hours following the completion of the harvest. The harvest report shall include the:
    - (A) registration number,
    - (B) name and contact information of the registrant,
    - (C) harvest timeframe including start and end dates,
    - (D) name(s) of the cultivar(s),
    - (E) unique sample identification number(s) as assigned on the sample analysis request form and the percentage concentration of THC for each cultivar as reported on the laboratory test report,
    - (F) physical address, Global Positioning System coordinates, general description of the planting location, and total acreage or square footage of the harvested planting, and
    - (G) description and quantity of the material harvested.
  - (2) The Department shall make a template of a harvest report form available on the Department's website.
  - (3) Harvest shall be completed within 30 calendar days from the sampling date.
    - (A) Registrants may request additional sampling and testing in accordance with the procedures outlined in Section 4940 to extend the harvest timeframe.
      - 1. The most recent laboratory test report electronically received by the commissioner in compliance with Sections 4940 through 4945 shall be considered the effective THC concentration for determining whether the planting may be harvested and determining compliance with Division 24 of the Food and Agricultural Code.
      - 2. All previous laboratory test reports received for the same planting shall be invalid upon the commissioner's receipt of an electronic copy of the most recent laboratory test report. If the most recent laboratory test report indicates a percentage concentration of THC that is greater than the acceptable hemp THC level but does not exceed one percent, the registrant may request one additional retest in accordance with Section 4945.

- (4) The commissioner may confirm the completion of the harvest by conducting field inspections. The commissioner shall be provided with complete and unrestricted access during business hours to all hemp and other cannabis plants, whether growing or harvested, and all land, buildings, and other structures used for the cultivation, handling, and storage of all hemp and other cannabis plants, and all locations registered as a cultivation site.
- (5) Registrant shall provide an original copy of the passing test report to any person transporting, purchasing, or obtaining the industrial hemp.
- (b) Registrants shall not harvest the sampled crop that received a failed laboratory test report. Hemp crops that received a failed laboratory test report cannot be further handled or processed, except in accordance with Section 4950, and may not enter the stream of commerce.
  - (1) If the initial laboratory test report indicates a percentage concentration of THC that is greater than the acceptable hemp THC level but does not exceed one percent, the registrant may request one additional retest in accordance with Section 4945.
- (c) Registrants shall destroy a crop that receives a failed laboratory test report within the following timeframes:
  - (1) If a laboratory test report indicates the percentage concentration of THC exceeds one percent, the destruction shall begin within 48 hours, and be completed within seven calendar days, after the registrant's receipt of an electronic copy of the laboratory test report. The commissioner shall issue a notice of abatement to the registrant within 48 hours of the receipt of the electronic copy of the laboratory test report.
  - (2) If a second laboratory test report from retesting indicates the percentage concentration of THC exceeds the acceptable hemp THC level but is less than one percent, the destruction shall take place as soon as practicable, but no later than 45 calendar days after the registrant's receipt of an electronic copy of the second laboratory test report. The commissioner shall issue a notice of abatement to the registrant within 48 hours of the receipt of the electronic copy of the laboratory test report.
- (d) Registrant shall retain an original signed copy of the laboratory test report for two years from the date of sampling and make the original signed copy of the laboratory test report available to the Department, the commissioner, or law enforcement officials or their designees upon request.

Note: Authority cited: Sections 407 and 81006, Food and Agricultural Code  
Reference: Section 81006, Food and Agricultural Code

### **Article 3. Abatement and Enforcement**

#### **4950. Destruction of Non-Compliant Industrial Hemp Crops.**

- (a) Any industrial hemp crop that does not meet the requirements of Division 24 of the Food and Agricultural Code and this chapter shall be destroyed in a manner compliant with Section 297B of the federal Agricultural Marketing Act of 1946 (added by Section 10113 of the federal Agriculture Improvement Act of 2018 (December 20, 2018) (Public Law 115-334), implementing regulations, and guidance which is hereby incorporated by reference.
  - (1) Unless otherwise specified in Section 4946 (c), any non-compliant industrial hemp crop shall be destroyed as soon as practical, but destruction must be completed no later than 45 calendar days after the cultivator's receipt of notification of abatement from the commissioner.
- (b) The cultivator of the industrial hemp crop shall submit a signed destruction plan to the commissioner at least 24 hours prior to the start of the destruction, unless a shorter timeframe is allowed by the commissioner. The destruction plan shall include the:
  - (1) registration number, if applicable,
  - (2) name and contact information of the cultivator,
  - (3) anticipated destruction date(s) of the crop to be destroyed,
  - (4) name(s) of the cultivar(s) to be destroyed,
  - (5) unique sample identification number(s) as assigned on the sample analysis request form and percentage concentration of THC for each cultivar as reported on the laboratory test report, if applicable,
  - (6) physical address, Global Positioning System coordinates, general description and location type of the planting location, and total acreage or square footage of the crop to be destroyed,
  - (7) lot identification number as provided by United States Department of Agriculture Farm Service Agency, if available, and
  - (8) destruction method compliant with Section 297B of the federal Agricultural Marketing Act of 1946 (added by Section 10113 of the federal Agriculture Improvement Act of 2018 (December 20, 2018) (Public Law 115-334), implementing regulations, and guidance which is hereby incorporated by reference.

- (c) The destruction plan shall be approved by the commissioner prior to the start of the destruction.
- (d) Unless destroyed by a reverse distributor registered with the United States Drug Enforcement Administration or by law enforcement, the destruction shall be conducted at the planting site.
- (e) The cultivator shall submit a signed destruction report to the commissioner within 72 hours following the completion of the destruction. The destruction report shall include the:
  - (1) registration number, if applicable,
  - (2) name and contact information of the cultivator,
  - (3) date(s) and time(s) of destruction,
  - (4) name(s) of the cultivar(s) destroyed,
  - (5) unique sample identification number(s) and percentage concentration of THC for each cultivar as reported on the laboratory test report, if applicable,
  - (6) physical address, Global Positioning System coordinates, general description and location type of the planting location, and total square footage or acreage of the destroyed planting,
  - (7) lot identification number as provided by United States Department of Agriculture Farm Service Agency, if available, and
  - (8) description and quantity of the material destroyed.
- (f) The commissioner shall confirm the destruction of the crop by either conducting field inspections or directing cultivators to provide pictures or videos that disposal occurred successfully. The commissioner shall be provided with complete and unrestricted access during business hours to all hemp and other cannabis plants, whether growing or harvested, and all land, buildings, and other structures used for the cultivation, handling, and storage of all hemp and other cannabis plants, and all locations registered as a cultivation site.
- (g) If the commissioner determines the destruction was not executed consistent with the destruction plan, they shall require a corrective action plan consistent with section 4951 (f)-(h) or revoke the registration.

(gh) The Department shall make a template of a destruction plan and destruction report available on the Department's website.

(hj) The Department shall notify the United States Department of Agriculture by certified mail or electronically by the first of each month of any occurrence of non-compliant plants or plant material and provide a disposal record for those plants and materials in accordance with the procedure outlined in Part 990.70(b) in Title 7 of the Code of Federal Regulations.

Note: Authority cited: Sections 407, 81003, 81004, 81004.5, and 81006, Food and Agricultural Code

Reference: Section 81006, Food and Agricultural Code

#### **4950.1 Voluntary Destruction of Industrial Hemp Crops.**

- (a) Any cultivator that wishes to voluntarily destroy a crop shall destroy the crop in a manner compliant with Section 297B of the federal Agricultural Marketing Act of 1946 (added by Section 10113 of the federal Agriculture Improvement Act of 2018 (December 20, 2018) (Public Law 115- 334), implementing regulations, and guidance which is hereby incorporated by reference.
- (b) The cultivator shall report destruction of the crop to the commissioner in accordance with procedures outlined in Section 4950(b) through (eg).

Note: Authority cited: Sections 407, 81003, 81004, 81004.5, and 81006, Food and Agricultural Code

Reference: Section 81006, Food and Agricultural Code

#### **4951. Corrective Action Plan.**

- (a) If the commissioner finds a cultivator has negligently violated Food and Agricultural Code Division 24 or this chapter, the commissioner shall issue a notice of violation and require a corrective action plan be provided by the cultivator. Negligent violations, defined as the failure to exercise the standard of care that a reasonably prudent person would have exercised in a similar situation shall include:
  - (1) failing to provide a legal description of the land on which the cultivator cultivates hemp,
  - (2) failing to obtain registration prior to cultivation, or
  - (3) producing hemp with a THC concentration greater than the acceptable hemp THC level except that cultivators do not commit a negligent violation for producing hemp with a THC concentration greater than the acceptable hemp



THC level if the crop does not have a total delta-9 tetrahydrocannabinol concentration of more than 1.0 percent on a dry weight basis.

~~(e)~~ (b) A notice of violation shall describe:

- (1) the violations charged to the recipient,
  - (2) the right to request a hearing before the commissioner via a written appeal, as specified in Section 4952 (a), including the email, mailing address, physical address, and/or website that may be used to submit an appeal
  - (3) a corrective action plan, and
  - (4) an administrative hold, if applicable.
- (c) A notice of violation that is sent by certified mail to the last known address of the person charged shall be considered received even if delivery is refused or the notice is not accepted at that address.
- (d) If the commissioner determines that hemp grown not in compliance with Food and Agricultural Code Division 24 or this chapter will negatively affect the welfare or well-being of the general public, it is in the public interest to issue an order for the administrative hold of hemp:
- (1) The order shall provide a description of the hemp to be subject to the administrative hold.
  - (2) Within twenty-four (24) hours of receipt of the order for administrative hold, the person in possession of the hemp subject to the hold shall physically segregate, safeguard and preserve all industrial hemp subject to the hold in the area designated on the licensee's premises diagram.
  - (3) While the administrative hold is in effect, the person in possession of the industrial hemp is restricted from selling, donating, transferring, transporting, gifting, giving away, or destroying the industrial hemp that is subject to the hold.
  - (4) Nothing herein shall prevent a registrant from continued possession, cultivation, or harvesting of the industrial hemp subject to the administrative hold. While the administrative hold is in effect, all industrial hemp subject to the hold shall be segregated from industrial hemp that is not subject to hold.
  - (5) Nothing herein shall prevent a person in possession of the hemp from voluntarily surrendering industrial hemp subject to an administrative hold to the commissioner. The registrant shall identify the hemp being voluntarily

surrendered. Voluntary surrender does not waive the right to a hearing and any associated rights.

- (6) Nothing herein shall prevent the person who is in possession of the hemp from inspecting it or from taking a sample according to Section 4941 and testing according to Section 4942 for evidence while in the presence of a person designated by the commissioner.
- (7) The hold order shall be nullified upon issuance of a decision under Section 4952(a), (b), or (c) that finds the person charged in the notice of violation was not and is not in violation as so charged.
- (8) If the notice of violation places a hold on hemp, or requires a person to cease operations, the notice of violation shall remain in effect pending the outcome of the hearings in Section 4952(a), (b), or (c).
- (9) Nothing herein shall be construed to extend required destruction timeframes and waive prohibitions on cultivation or harvest in Division 24 of the Food and Agricultural Code or this chapter.
- (10) The Commissioner shall remove a hold order upon finding that the violation that caused the hold order has been corrected.
- (e) The commissioners or the Department shall not apply more than one negligent violation towards the eligibility requirement outlined in Section 4951(k) per calendar year.
- (f) The cultivator will be required to provide a corrective action plan to the commissioner within 4530 calendar days from the receipt of the notice of violation. The thirty-day period shall be tolled until the appeal periods described in Sections 4952 (a), (b), or (c)(2), when applicable, have expired. The corrective action plan shall include:
  - (1) a reasonable date, not to exceed 45 calendar days, by which the cultivator shall correct the violation,
  - (2) measures to correct the violation, and
  - (3) periodic reporting to the commissioner on its compliance with the requirements of Division 24 of the Food and Agricultural Code, this chapter, and the corrective action plan for a minimum of two years from the date of the violation.
- (g) The corrective action plan shall be approved by the commissioner prior to implementation of the corrective action plan.
- (h) The commissioner shall confirm compliance with the corrective action plan by conducting field inspections. The commissioner shall be provided with complete and

unrestricted access during business hours to all hemp and other cannabis, whether growing or harvested, and all land, buildings, and other structures used for the cultivation, handling, and storage of all hemp and other cannabis plants, and all locations registered as a cultivation site.

- (i) Failure to comply with this section shall result in revocation of registration and the existing crop may be considered non-compliant and subject to destruction in accordance with Section 4950.
- (j) Revocation shall be effective within 30 calendar days from the notice of violation of the corrective action plan unless appealed pursuant to Section 4952.
- (k) After 30 calendar days from revocation date and if the applicant intends to cultivate industrial hemp, the applicant shall submit a new registration application in accordance with the registration procedures outlined in Section 4901(a) and if requested by the commissioner, a corrective action plan.
- (~~kl~~) Any registrant, key participant, A grower of industrial hemp, established agricultural research institution, or hemp breeder that commits a negligent violation three times in a five-year period shall be ineligible to participate in the industrial hemp program for a period of five years beginning on the date of the finding of the third violation.
- (~~lm~~) A cultivator shall not, as a result of a negligent violation, be subject to any criminal enforcement action by the state or local government.
- (~~mn~~) The Secretary shall immediately report any violations that are determined by the department or commissioner to have been conducted with a mental state greater than negligence which is defined as acting intentionally, knowingly, willfully, recklessly, or with criminal negligence including, but not limited to, intentionally, with recklessness, or with gross negligence, to the Attorney General of the United States and the Attorney General of California. Subsections (a) through (g) of this section shall not apply to such violations.

Note: Authority cited: Sections 407, 81003, 81004, 81004.5, and 81012, Food and Agricultural Code

Reference: Section 81012, Food and Agricultural Code

#### **4952. Appeals.**

- (a) Appeals to the commissioner. A respondent may contest a notice of violation or a lab report issued pursuant to Food and Agricultural Code Section 81006(e) within 30 calendar days from the date of the notice of violation by submitting a written request,

via email, mailing address, physical address, or website, as specified in the notice of violation, for a hearing before the commissioner.

- (1) Failure to present a timely request for a hearing constitutes a waiver of the respondent's right to contest the notice of violation or lab report.
- (2) At the hearing, the person shall be given an opportunity to review the commissioner's evidence and to present evidence on his or her own behalf.
- (3) Within 60 calendar days of the receipt of a written request for a hearing, the commissioner shall hold a hearing, a hearing officer assigned by the commissioner shall issue a proposed decision and order, and the commissioner shall mail notice of the order to the respondent. The order is effective as of the date on the notice.

(b) Appeals to the Secretary. If the person upon whom the commissioner issued a notice of violation requested and appeared at the hearing, the person may appeal the commissioner's decision to the Secretary within 30 calendar days of the date of receiving a copy of the commissioner's decision.

- (1) To appeal the commissioner's decision, the appellant shall send a written request to the Legal Office of Hearings and Appeals of the Department of Food and Agriculture, 1220 N Street, Room 315, Sacramento, California 95814 or via email to [CDFA.LegalOffice@cdfa.ca.gov](mailto:CDFA.LegalOffice@cdfa.ca.gov).

(A) The written request shall include:

1. a copy of the commissioner's decision,
  2. the notice of violation,
  3. a clear and concise statement of the basis for the appeal, and
  4. the signature of the appellant or his or her authorized agent.
- (2) The appellant shall submit a copy of the appeal with the commissioner at the same time it is filed with the Secretary.
  - (3) Both the appellant and the commissioner, at the time appellant files the appeal or within 10 calendar days thereafter, may submit the record of the hearing and a written argument to the Secretary stating the ground for affirming, modifying, or reversing the commissioner's decision. All documents must be submitted to the Legal Office of Hearings and Appeals of the California Department of Food and Agriculture, 1220 N Street, Suite 315, Sacramento, California 95814 or via email at [CDFA.LegalOffice@cdfa.ca.gov](mailto:CDFA.LegalOffice@cdfa.ca.gov).

- (4) The department shall schedule an informal hearing within 45 calendar days from receipt of the request for an informal hearing. The department shall provide a notice of informal hearing to the appellant containing the following information:
    - (A) date, location, and time of the informal hearing, and
    - (B) a statement to the appellant that the appellant may, but need not, be represented by counsel at any or all stages of the proceedings.
  - (5) Any objection to the department's selection of the informal hearing procedure instead of a formal hearing procedure shall be made in writing to the Legal Office of Hearings and Appeals and shall be resolved by the hearing officer prior to the hearing.
  - (6) Hearings shall be presided over and conducted by a hearing officer designated by the Secretary. In no instance shall any employee of the Industrial Hemp Program serve as the hearing officer in any hearing conducted pursuant to this section.
  - (7) If the hearing officer finds substantial evidence in the record to support the commissioner's decision, the Secretary shall affirm the commissioner's decision.
  - (8) Hearings may be conducted by teleconference, at the discretion of the hearing officer.
  - (9) The decision of the hearing officer shall be in writing and include a statement of the factual legal basis of the decision.
  - (10) The decision shall be issued within 30 calendar days after the conclusion of the hearing and may be issued orally at the conclusion of the hearing subject to written confirmation.
  - (11) The written decision shall be served on the respondent either by personal service, facsimile transmission, or email.
  - (12) The hearing officer's decision shall be effective immediately upon first articulation under subsection (10) and shall be final and not appealable to the Secretary or any other officer of the department.
  - (13) The person charged may challenge the hearing officer's decision by filing a writ of administrative mandamus in the appropriate court pursuant to Code of Civil Procedure Section 1094.5.
- (c) The commissioner may deny, suspend, or revoke a registration for any violation of the Division 24 of the Food and Agricultural Code or this chapter.

- (1) The commissioner shall notify the person charged with a violation pursuant to the notice requirements of Section 4951 (a).
- (2) Any person who is noticed of denial, suspension, or revocation of registration may request a hearing before the Secretary within 30 calendar days of the date of receiving a copy of the commissioner's notice.
- (3) The hearing shall be scheduled by the Department consistent with the provisions of Chapter 5 (commencing with Section 11500), Part 1, Division 3, Title 2 of the Government Code, and any applicable regulations enacted pursuant to these provisions.
- (4) Hearings concerning the denial, suspension, or revocation of a registration shall be conducted pursuant to Chapter 5 (commencing with Section 11500) Part 1, Division 3, Title 2 of the Government Code.
- (5) The standard of proof to be applied by the Department is preponderance of the evidence. The commissioner shall have the burden of proof and the burden of producing evidence.

Note: Authority cited: Sections 407, 81003, 81004, 81004.5, and 81012, Food and Agricultural Code

Reference: Section 81012, Food and Agricultural Code

**Standard Method Performance Requirements (SMPRs®) for Quantitation of Cannabinoids in Plant Materials of Hemp (Low THC Varieties *Cannabis* sp.)**

**Intended Use: Consensus-Based Reference Method**

**1 Purpose**

AOAC SMPRs describe the minimum recommended performance characteristics to be used during the evaluation of a method. The evaluation may be an on-site verification, a single-laboratory validation, or a multi-site collaborative study. SMPRs are written and adopted by AOAC composed of representatives from the industry, regulatory organizations, contract laboratories, test kit manufacturers, and academic institutions. AOAC SMPRs are used by AOAC expert review panels in their evaluation of validation study data for methods being considered for *Performance Tested Methods*<sup>SM</sup> certification or AOAC *Official Methods of Analysis*<sup>SM</sup> adoption and can be used as acceptance criteria for verification at user laboratories.

**2 Applicability**

The method will be able to identify and quantify individual cannabinoids (as listed in Tables 1 and 2) in plant materials expressed on a dry weight basis. The method must be able to report total THC (as defined in this SMPR), regardless of how it is measured.

**3 Analytical Technique**

Any analytical technique(s) that measures the analytes of interest and meets the following method performance requirements is/are acceptable.

**4 Definitions**

**Hemp plant materials.**—Fresh or dried, whole or milled plant material of low THC cultivars of *Cannabis* spp.

**Limit of quantitation (LOQ).**—Minimum concentration or mass of analyte in a given matrix that can be reported as a quantitative result.

**Quantitative method.**—Method of analysis which response is the amount of the analyte measured either directly (enumeration in a mass or a volume), or indirectly (color, absorbance, impedance, etc.) in a certain amount of sample.

**Recovery.**—Fraction or percentage of spiked analyte that is recovered when the test sample is analyzed using the entire method.

**Repeatability.**—Variation arising when all efforts are made to keep conditions constant by using the same instrument and operator and repeating during a short time period. Expressed as the repeatability standard deviation (SD<sub>r</sub>); or % repeatability relative standard deviation (%RSD<sub>r</sub>).

**Reproducibility.**—Standard deviation or relative standard deviation calculated from among-laboratory data. Expressed as the reproducibility standard deviation (SD<sub>R</sub>); or % reproducibility relative standard deviation (%RSD<sub>R</sub>).

**Total THC.**—Maximum potential percentage w/w delta-9-tetrahydrocannabinol that the test sample could yield on a dry weight basis, including delta-9-THC and delta-9-THCA.

**5 Method Performance Requirements**

See Tables 3 and 4.

**6 System Suitability Tests and/or Analytical Quality Control**

Suitable methods will include blank check samples, and check standards at the lowest point and midrange point of the analytical range.

A detailed description of the method's dry weight procedures and calculations must be included.

**7 Reference Material(s)**

See Tables 1 and 2 for sources of reference materials.

Refer to Annex F: *Development and Use of In-House Reference Materials* in Appendix F: *Guidelines for Standard Method Performance Requirements, Official Methods of Analysis of AOAC INTERNATIONAL* (2019) 21st Ed., AOAC INTERNATIONAL, Rockville, MD, USA. Available at: [http://www.eoma.aoac.org/app\\_f.pdf](http://www.eoma.aoac.org/app_f.pdf)

**8 Validation Guidance**

An initial and important stage in cannabis testing is preparation of a homogeneous sample of the plant material. Detailed and complete procedures for reproducible preparation of test samples from the plant material must be addressed during method validation and those data must be included in the method validation submission. A detailed description of the method's dry weight procedures and calculations must be included in the submission.

Appendix D: *Guidelines for Collaborative Study Procedures to Validate Characteristics of a Method of Analysis, Official Methods of Analysis of AOAC INTERNATIONAL* (2019) 21st Ed., AOAC INTERNATIONAL, Rockville, MD, USA. Available at: [http://www.eoma.aoac.org/app\\_d.pdf](http://www.eoma.aoac.org/app_d.pdf)

Appendix F: *Guidelines for Standard Method Performance Requirements, Official Methods of Analysis of AOAC INTERNATIONAL* (2019) 21st Ed., AOAC INTERNATIONAL, Rockville, MD, USA. Available at: [http://www.eoma.aoac.org/app\\_f.pdf](http://www.eoma.aoac.org/app_f.pdf)

Appendix K: *Guidelines for Dietary Supplements and Botanicals, Official Methods of Analysis of AOAC INTERNATIONAL* (2019) 21st Ed., AOAC INTERNATIONAL, Rockville, MD, USA. Available at: [http://www.eoma.aoac.org/app\\_k.pdf](http://www.eoma.aoac.org/app_k.pdf)

**9 Maximum Time-to-Result**

None

Approved by attending stakeholders of the AOAC Cannabis Analytical Science Program (CASP) meeting on September 7, 2019. Final Version Date: October 3, 2019.

Posted: October 9, 2019

Table 1. Required cannabinoids

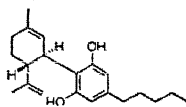
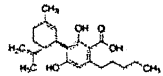
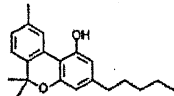
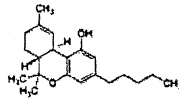
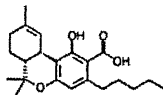
Common name	Abbreviation	IUPAC name	CAS No.	Molecular structure	Reference material
Cannabidiol	CBD	2-[(1 <i>R</i> ,6 <i>R</i> )-6-isopropenyl-3-methylcyclohex-2-en-1-yl]-5-pentylbenzene-1,3-diol	13956-29-1		Restek Cerilliant Sigma-Aldrich API Standards Echo Pharm Lipomed AG
Cannabidiolic acid	CBDA	2,4-Dihydroxy-3-[(1 <i>R</i> ,6 <i>R</i> )-3-methyl-6-prop-1-en-2-ylcyclohex-2-en-1-yl]-6-pentylbenzoic acid	1244-58-2		Cerilliant USP Restek Lipomed AG Echo Pharmaceutical
Cannabinol	CBN	6,6,9-Trimethyl-3-pentyl-benzo[ <i>c</i> ]chromen-1-ol	521-35-7		Cerilliant Restek
Tetrahydro-cannabinol	THC	(-)-(6 <i>aR</i> ,10 <i>aR</i> )-6,6,9-trimethyl-3-pentyl-6 <i>a</i> ,7,8,10 <i>a</i> -tetrahydro-6 <i>H</i> -benzo[ <i>c</i> ]chromen-1-ol	1972-08-3		Cerilliant USP Echo Pharmaceuticals
Tetrahydro-cannabinolic acid	THCA	(6 <i>aR</i> ,10 <i>aR</i> )-1-hydroxy-6,6,9-trimethyl-3-pentyl-6 <i>a</i> ,7,8,10 <i>a</i> -tetrahydro-6 <i>H</i> -benzo[ <i>c</i> ]chromene-2-carboxylic acid	23978-85-0		Cerilliant USP Echo Pharmaceuticals



Table 2. Additional, desirable cannabinoids

Common name	Abbreviation	IUPAC name	CAS No.	Molecular structure	Reference material
Cannabichromene	CBC	2-Methyl-2-(4-methylpent-3-enyl)-7-pentyl-5-chromenol	20675-51-8		Cerilliant Sigma Aldrich Echo Pharmaceuticals
Cannabichromenic acid	CBCA	5-Hydroxy-2-methyl-2-(4-methyl-3-penten-1-yl)-7-pentyl-2H-chromene-6-carboxylic acid	20408-52-0		Cerilliant
Cannabidivarinic acid	CBDVA	2,4-Dihydroxy-3-[(1R,6R)-3-methyl-6-prop-1-en-2-ylcyclohex-2-en-1-yl]-6-propylbenzoic acid	31932-13-5		Cerilliant
Cannabigerol	CBG	2-[(2E)-3,7-dimethylocta-2,6-dienyl]-5-pentyl-benzene-1,3-diol  NIST: 1,3-Benzenediol, 2-(3,7-dimethyl-2,6-octadienyl)-5-pentyl-	25654-31-3  NIST: 2808-33-5		Cerilliant Lipomed AG Echo Pharmaceuticals SPEX Certiprep Tocris (UK)
Cannabigerolic acid	CBGA	3-[(2E)-3,7-dimethylocta-2,6-dienyl]-2,4-dihydroxy-6-pentylbenzoic acid	25555-57-1		Cerilliant Echo Pharmaceuticals SPEX Certiprep
Cannabidivarin	CBDV	2-[(1S,6S)-3-methyl-6-(prop-1-en-2-yl) cyclohex-2-enyl]-5-propylbenzene-1,3-diol	24274-48-4		Cerilliant SPEX Certiprep
$\Delta^8$ Tetrahydro-cannabinol	$\Delta^8$ THC	6,6,9-Trimethyl-3-pentyl-6a,7,10,10a-tetrahydrobenzo[c]chromen-1-ol	5957-75-5		Cerilliant SPEX Certiprep
Tetrahydro-cannabivarin	THCV	6,6,9-Trimethyl-3-propyl-6a,7,8,10a-tetrahydro-6H-benzo[c]chromen-1-ol	28172-17-0		Cerilliant USP
Tetrahydrocannabivarinic acid	THCVA		39986-26-0		Cerilliant

**Table 3. Method performance requirements (part 1) for cannabinoids**

Parameter	Requirement <sup>a</sup>
Limit of quantitation (LOQ), %	≤0.05
Analytical range (CBD and CBDA), %	0.05–35
Analytical range (others), %	0.05–5

<sup>a</sup> All calculated on dry weight basis.

**Table 4. Method performance requirements (part 2) for cannabinoids**

Parameter	Analytical range, % <sup>a</sup>		
	0.05–0.5	>0.5–5	5–35 <sup>b</sup>
Recovery, %	85–118	90–111	95–105
RSD <sub>n</sub> , %	≤5	≤3	≤2
RSD <sub>R</sub> , %	≤10	≤8	≤6

<sup>a</sup> All calculated on dry weight basis; observed values to be compared to indicated limits for acceptability.

<sup>b</sup> Only applicable to CBD and CBDA.