



California Department of Food and Agriculture Division of Measurement Standards



Fuel Contamination: Water and Sediment

If you are a commercial retailer of motor vehicle fuels in an area impacted by flooding, the quality of your fuel may be affected. Motor vehicle fuel is required to be free from water, sediment, and other contaminants. During a flooding event, we advise fueling station owners to follow these steps to protect their motor vehicle fuel:

- Ensure that the storage tank fill inlet connection cap gaskets are in place and in good condition.
- Ensure that the storage tank fill inlet connection caps are securely closed and snapped shut.
- Ensure there are weather caps on top of the storage tank vent pipes.
- Take samples at regular intervals to monitor the condition of the fuel.
 - This should be performed daily or at other intervals when water might have entered a storage tank, such as after a significant rainstorm or flooding.
- Regularly remove water and debris from storage tanks by appropriate means. A Registered Service Agency can assist you.
<https://www.cdfa.ca.gov/dms/programs/rsa/rsalistsings/rsaListings.html>
 - **DO NOT ALLOW THIS WATER TO BE RELEASED INTO THE GUTTER OR STORM DRAIN.**
- Read and test the storage tank monitoring systems regularly to ensure they are working properly and if they are indicating the presence of water.
 - Check storage tanks daily by using water detection paste appropriate for the fuel type. Water detection paste changes color when it contacts water. Follow the water detection paste instructions.
 - Keep fuel storage tanks full to reduce the space for water to condense.

- Filter the contents of the storage tank(s) through a re-circulating filter system to remove sediment and gums. This is generally called fuel polishing. A Registered Service Agency can assist you.
<https://www.cdfa.ca.gov/dms/programs/rsa/rsalistsings/rsaListings.html>

- Inspect your fuel as delivered through the pump nozzle by performing a visual inspection for water and sediment as follows:

Field Identification of Water and Water/Sediment Mixtures in Motor Vehicle Fuels during flood events:

- 1) Pour fuel into a clear and transparent container and mix by swirling to create a vortex.
- 2) Place the container on a stable surface and allow movement of the liquid to come to a stop.
- 3) Look to see if the sample is clear or hazy.
- 4) Look for any droplets or a layer of water near the bottom of the container.
- 5) Look for sediment or sediment mixed with water near the bottom of the container.

If the fuel is hazy, contains water droplets or has a layer of water, and/or contains sediment, it is not fit for use as a motor fuel (**see Figures 1 - 5**).

Figure 1: Diesel sample with water droplets as viewed from side of the container.



Figure 2: Diesel sample with water droplets as viewed from bottom of the container.

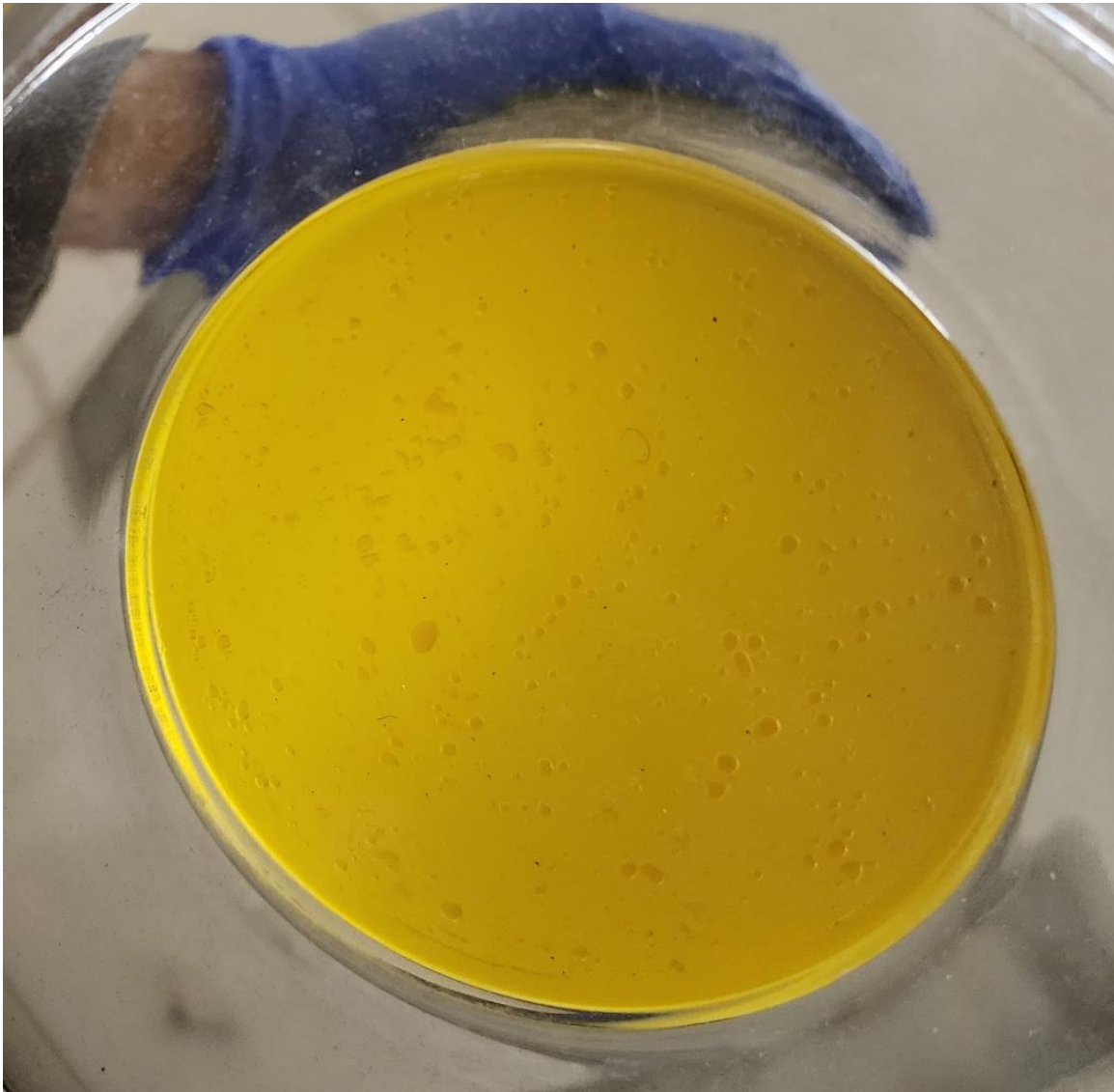


Figure 3: Diesel sample that is hazy (top layer) and contains water (bottom layer) as viewed from the side of the container.



Figure 4: Gasoline sample that is hazy (top layer) and contains water (bottom layer) as viewed from the side of the container.

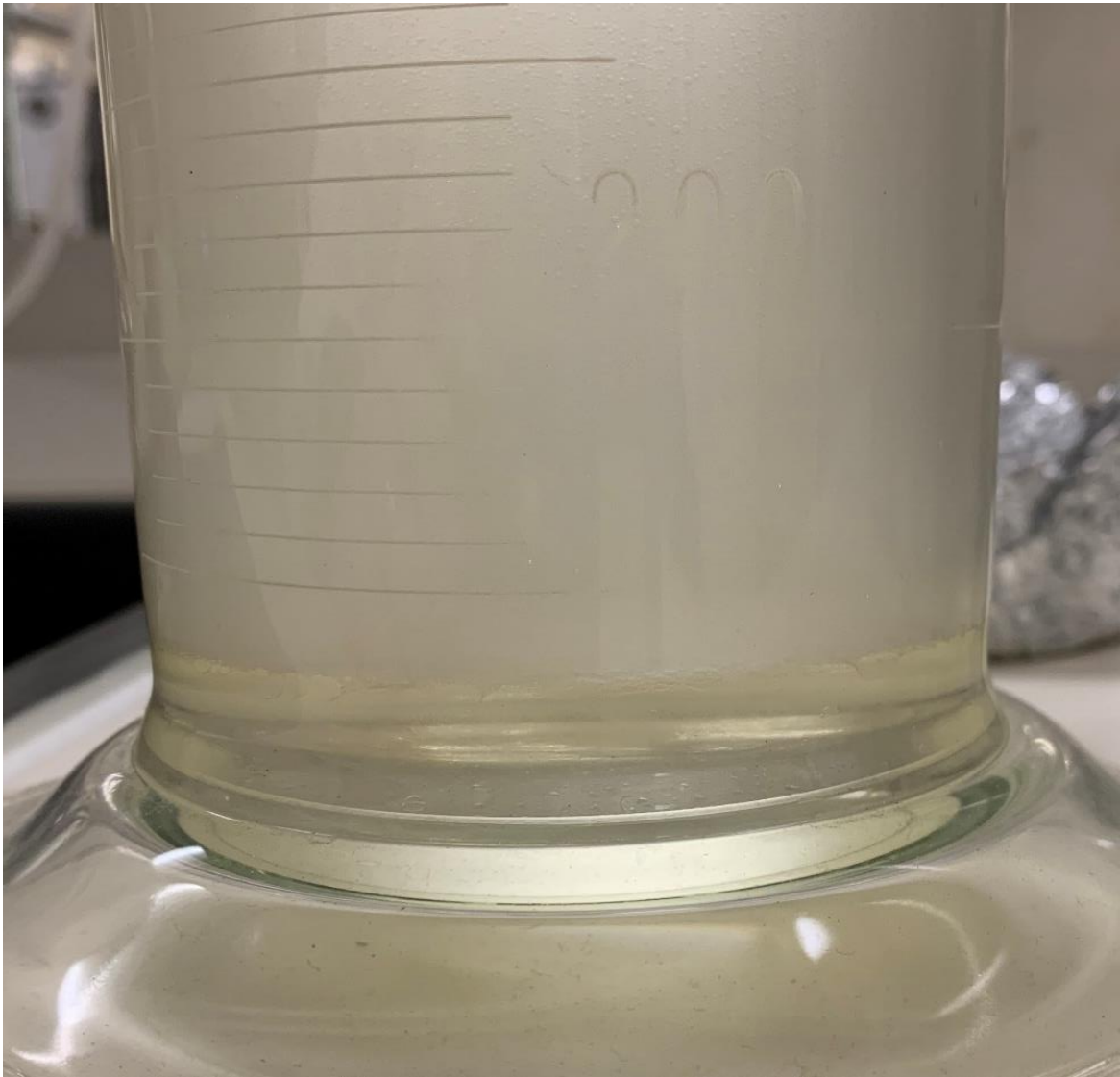
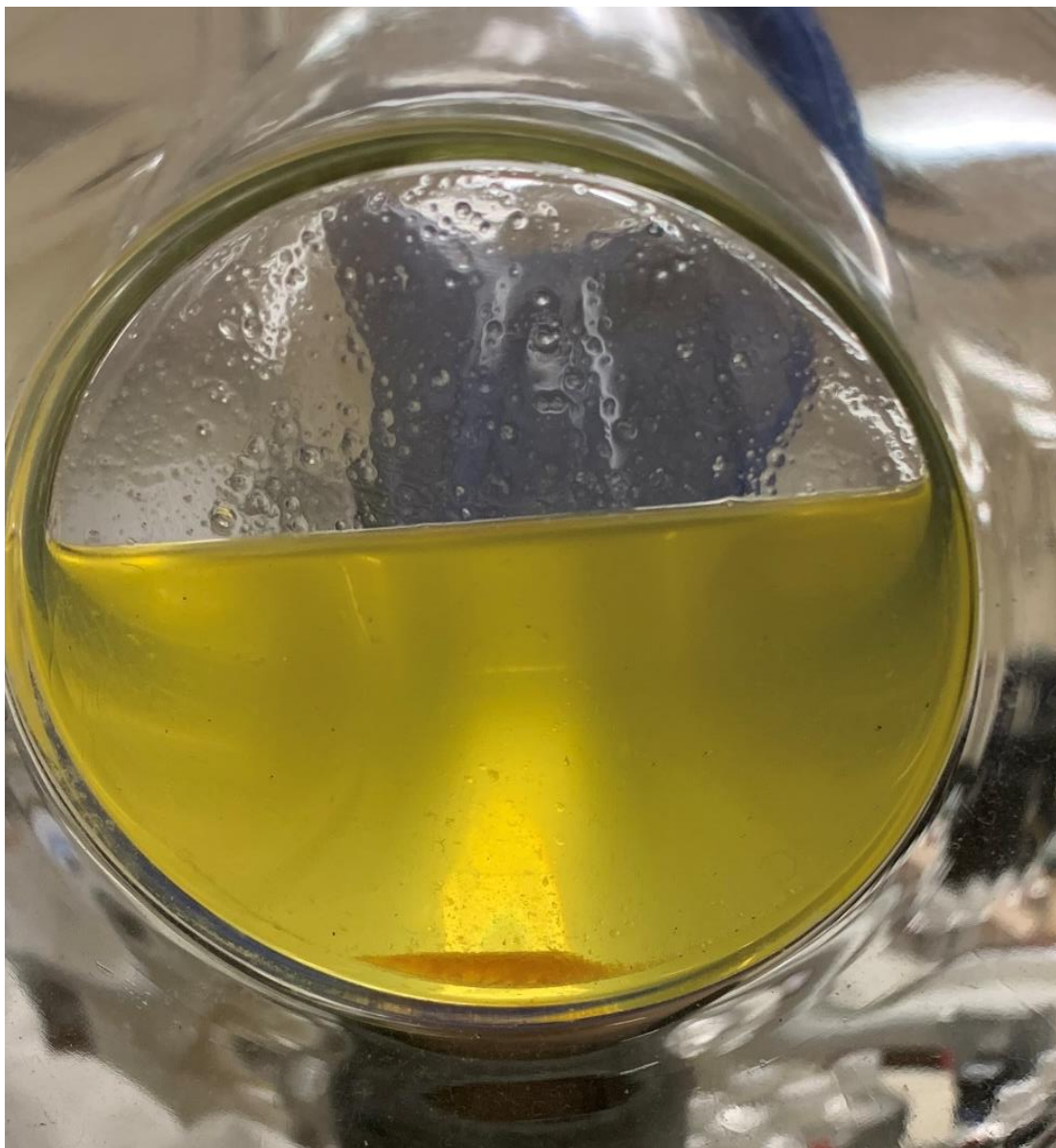


Figure 5: Diesel sample that contains sediment as viewed from bottom of container.



If you are concerned that your fuel might be contaminated and you wish to have it sampled and tested, contact your local county office of weights and measures.

Click on the link below to locate your county office of weights and measures. <https://www.cdfa.ca.gov/exec/county/countymap/>

If you have questions or need additional information, please contact the California Department of Food and Agriculture's Division of Measurement Standards at 916-229-3000 or dms@cdfa.ca.gov.

For an electronic copy of this document, please visit:
<https://www.cdfa.ca.gov/dms/programs/petroleum/petroleum.html>