



# Petroleum Products

## Environmental Exposure from Refineries

*This fact sheet provides information on potential chemical exposures from refineries. For information on potential exposures from other industrial operations and facilities, please click [here](#).*

### Why am I being warned about potential exposure to petroleum products from refineries?



- Petroleum products contain chemicals that are on the [Proposition 65](#) list because they can cause cancer and/or birth defects or other reproductive harm.
- Proposition 65 requires businesses to determine if they must provide a warning about significant exposure to [listed chemicals](#).

### What are petroleum products?

Petroleum products are made from crude oil, coal, and natural gas. They include gasoline, diesel fuel, and lubricants (for automobiles, airplanes, trains, snowmobiles, cooking stoves, generators, and furnaces), and are used to make chemicals, plastics, and synthetic materials.

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### How are petroleum products released into the environment from refineries?

Refineries process crude oil into a variety of different petroleum products. Releases can occur during regular operations and as the result of accidental spills, explosions, fires and leaks.

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### What health effects of these petroleum products am I being warned about?

Various chemicals in petroleum products in refineries can cause cancer, birth defects or other reproductive harm.

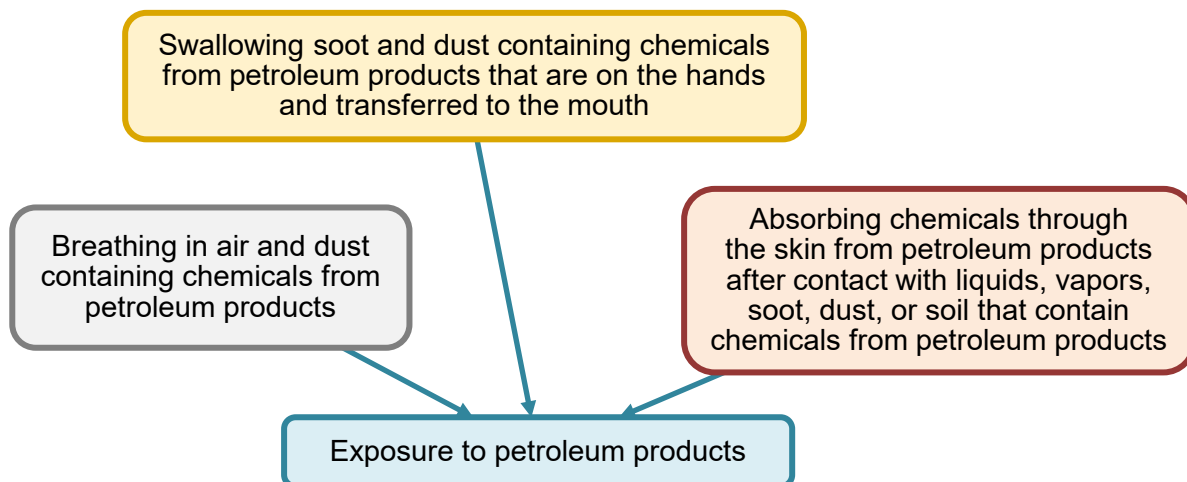
Examples of Proposition 65-listed chemicals in petroleum products and the health effects they cause are included below. Individual refineries do not necessarily cause exposures to all these chemicals:

- Acetaldehyde may increase the risk of cancer.
- [Benzene](#) can cause leukemia. Exposure during pregnancy may affect the development of the child. Benzene exposure may also harm the male reproductive system.
- Benzo(a)pyrene can cause lung cancer.

- 1,3-Butadiene can cause blood and lymphatic cancers. Exposure during pregnancy may affect the development of the child. 1,3-Butadiene exposure may also harm the reproductive systems of both men and women.
- [Carbon monoxide](#) exposure during pregnancy can affect the child's brain development and cause loss of pregnancy.
- Ethylbenzene may increase the risk of cancer.
- Naphthalene and other polycyclic aromatic hydrocarbon (PAH) exposure may increase the risk of cancer.
- [Formaldehyde](#) (gas) can cause leukemia and cancers of the nose, throat, and sinuses.
- [Lead](#) is added to some types of aviation gasoline. Lead exposure during pregnancy can affect brain development and cause learning and behavioral problems for the child. It can also harm the reproductive systems of both men and women. Exposure to lead may increase the risk of cancer.
- Nickel can cause cancers of the lung, nasal cavity, and sinuses.
- Sulfur dioxide exposure during pregnancy can affect the development of the child.

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### How does exposure to petroleum products from refineries occur?



- During pregnancy, some chemicals from petroleum products can pass from mother to baby.

**How can I reduce my exposure to petroleum products from refineries?**

If you live near refineries:

- ✓ Wash any homegrown fruits and vegetables before eating.
- ✓ Contact your county or city health department, local air quality management district, or air pollution control district if you have any questions or concerns regarding refineries in your community.
- ✓ If you see a Proposition 65 warning provided by a refinery, you may wish to contact the facility to find out more about the basis for the warning and the chemicals that prompted it.
- ✓ Be prepared for a refinery spill or accident. During an event of this kind, follow the instructions provided by authorities to reduce chemical exposure.

**For more information:****General Fact Sheets and Resources**

- US Energy Information Administration (EIA)
  - Oil and petroleum products explained  
[https://www.eia.gov/energyexplained/index.cfm?page=oil\\_home](https://www.eia.gov/energyexplained/index.cfm?page=oil_home)
- US Department of Health and Human Services (HHS)  
Agency for Toxic Substances and Disease Registry (ATSDR)
  - Petroleum Hydrocarbons (TPH)  
<https://wwwn.cdc.gov/TSP/substances/ToxSubstance.aspx?toxid=75>

**Scientific Information on Refinery Chemical Emissions**

- California Environmental Protection Agency (CalEPA)  
Office of Environmental Health Hazard Assessment (OEHHA)
  - Analysis of Refinery Chemical Emissions and Health Effects  
<https://oehha.ca.gov/air/analysis-refinery-chemical-emissions-and-health-effects>
- California Air Resource Board (CARB)
  - Refinery Air Monitoring  
<https://www.arb.ca.gov/fuels/carefinery/crseam/crseam.htm>

**Proposition 65**

- California Environmental Protection Agency (CalEPA)  
Office of Environmental Health Hazard Assessment (OEHHA)
  - Proposition 65: Background  
<https://www.p65warnings.ca.gov/faq>
  - Proposition 65: The List of Chemicals  
<https://www.p65warnings.ca.gov/chemicals>
  - Proposition 65: Fact Sheets  
<https://www.p65warnings.ca.gov/fact-sheets>