



# Diesel Engine Exhaust

## Why am I being warned about potential exposure to diesel engine exhaust?



- Diesel engine exhaust is on the [Proposition 65](#) list.
  - ▶ The International Agency for Research on Cancer ([IARC](#)) found that it is carcinogenic to humans and causes lung cancer. The US Environmental Protection Agency ([US EPA](#)) found that it is likely carcinogenic to humans. Other agencies made similar findings.
- California's Proposition 65 requires [businesses](#) to warn people before exposing them to a significant amount of a [chemical](#) listed under Proposition 65 for cancer or [reproductive toxicity](#).

## What is diesel engine exhaust?

- Diesel engine exhaust is produced when engines, including those in vehicles and generators, burn diesel fuel.
- It is a mixture of thousands of chemicals released as gases or particles (soot).
- More than 40 chemicals listed for cancer are present in diesel engine exhaust. These include [benzene](#), [arsenic](#), [formaldehyde](#), acetaldehyde, 1,3-butadiene, [lead](#), and numerous [polycyclic aromatic hydrocarbons](#) (a class of chemicals created by burning fuels and other substances).

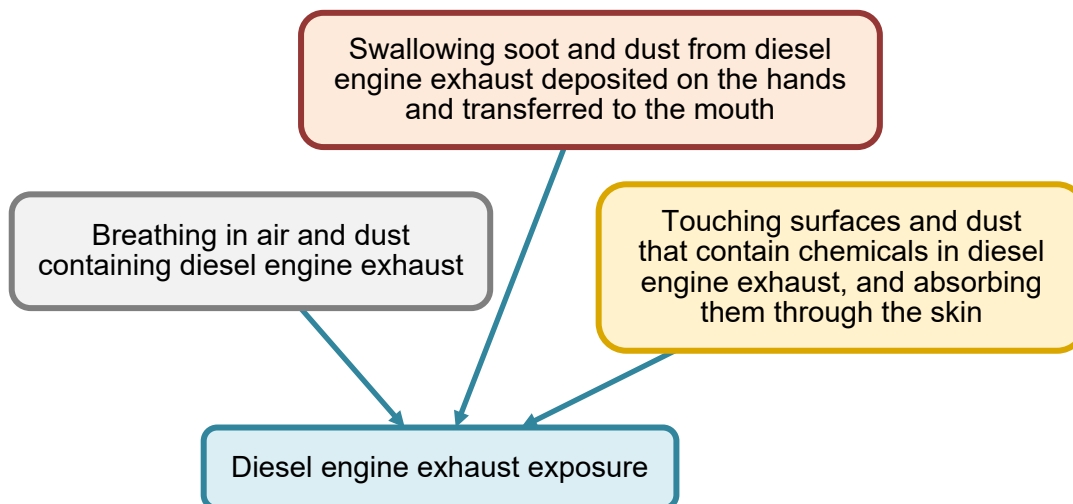
## How does exposure to diesel engine exhaust occur?

- Exposure occurs by breathing in air containing diesel engine exhaust. Sources include diesel-powered motor vehicles, ships, trains, generators, and other diesel-powered equipment.
- Exposure also occurs through contact with diesel engine gases and exhaust particles, which may be absorbed through the skin or unintentionally ingested.



These contaminants may:

- ▶ Be present on the surface of diesel-powered vehicles and equipment.
- ▶ Enter vehicles, homes, and other structures, where they can settle on surfaces and be absorbed into dust particles.

**Main ways you can be exposed to diesel engine exhaust:**

- During pregnancy, some chemicals in diesel engine exhaust can pass from mother to baby.

**How can I reduce my exposure to diesel engine exhaust?**

- ✓ Always start and operate a diesel engine in a well-ventilated area.
- ✗ Avoid breathing in diesel engine exhaust. Whenever practical, do not stand next to operating diesel engines.
- ✗ Avoid idling diesel engine vehicles, where possible.
- ✗ Do not use diesel-powered engines in enclosed spaces.
- ✗ Do not modify or tamper with a diesel engine's exhaust system.
- ✓ Install backup and portable diesel-powered generators well away from your home so that exhaust does not come in through open windows and doors.
- ✓ Consider replacing diesel-powered engines with alternatives such as engines powered by natural gas, propane, or electricity.
- ✓ Perform regular maintenance and frequent tune-ups of all diesel-powered equipment.
- ✓ When servicing or maintaining diesel-powered engines, prevent skin contact with exhaust by wearing gloves. Wash your hands when done, and before preparing food or eating.
- ✓ California restricts the use of certain types of diesel-powered vehicles. You can learn more about statewide diesel regulations from the [California Air Resources Board](#).

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

- California Environmental Protection Agency (CalEPA)  
California Air Resource Board (CARB)
  - Overview: Diesel Exhaust & Health  
<http://www.arb.ca.gov/research/diesel/diesel-health.htm>
- Office of Environmental Health Hazard Assessment (OEHHA)
  - Health Effects of Diesel Exhaust  
<http://oehha.ca.gov/air/health-effects-diesel-exhaust>
  - Diesel Particulate Matter  
<https://oehha.ca.gov/calenviroscreen/indicator/diesel-particulate-matter>
- Biomonitoring California
  - Diesel Exhaust Fact Sheet  
<https://biomonitoring.ca.gov/sites/default/files/downloads/DieselExhaustFactSheet.pdf>
  - Polycyclic Aromatic Hydrocarbons (PAHs)  
<https://biomonitoring.ca.gov/chemicals/polycyclic-aromatic-hydrocarbons-pahs>
- American Cancer Society (ACS)
  - Diesel Exhaust and Cancer Risk  
<https://www.cancer.org/cancer/cancer-causes/diesel-exhaust-and-cancer.html>

**Scientific Information on Diesel Engine Exhaust**

- California Environmental Protection Agency (CalEPA)  
Office of Environmental Health Hazard Assessment (OEHHA)
  - Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant.  
Executive Summary  
<http://oehha.ca.gov/media/downloads/air/document/diesel20exhaust.pdf>
  - Part B: Health Risk Assessment for Diesel Exhaust  
<https://ww2.arb.ca.gov/sites/default/files/barcu/regact/diesltac/partb.pdf>
- World Health Organization (WHO)  
International Agency for Research on Cancer (IARC)
  - IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, vol. 105 (2014). "Diesel and Gasoline Engine Exhausts" in Diesel and Gasoline Engine Exhausts and Some Nitroarenes, pages 37-467.  
<http://monographs.iarc.fr/ENG/Monographs/vol105/>

**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>