



## Gasoline Engine Exhaust

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



- Many chemicals in gasoline engine exhaust are on the [Proposition 65](#) list because they can cause cancer and/or birth defects or other reproductive harm. Exposure to these chemicals may increase your risk for these effects.
- Gasoline engine exhaust (condensates/extracts), which is essentially the sooty residue of gasoline engine exhaust, is also on the Proposition 65 list because it can cause cancer.
- Proposition 65 requires businesses to determine if they must provide a warning about significant exposure to [listed chemicals](#).

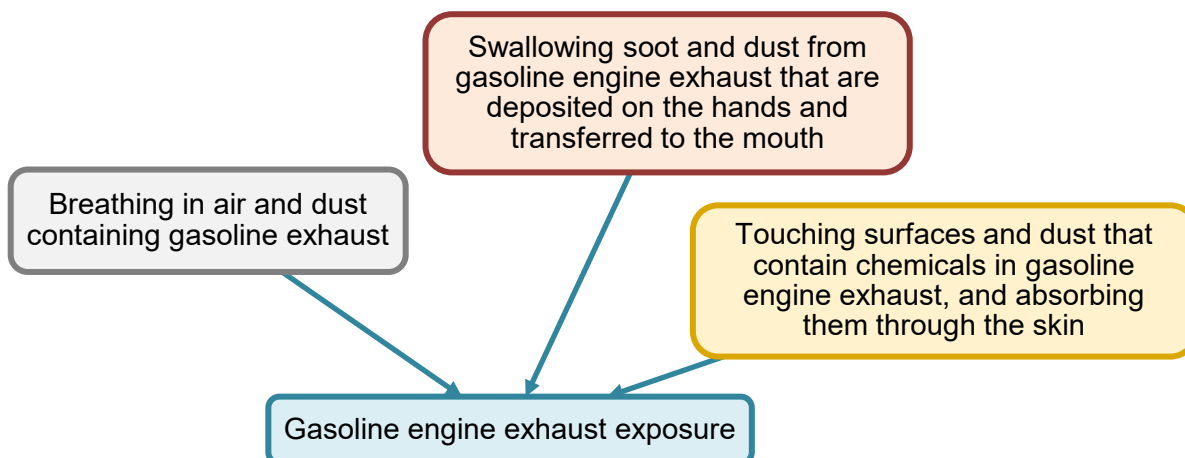
### What is gasoline engine exhaust?

- Gasoline engine exhaust is a mixture of many chemicals. It is produced when engines, including those in cars, trucks, boats, and motorized equipment, burn gasoline.
- These chemicals include [benzene](#), [formaldehyde](#), [carbon monoxide](#), ethylbenzene, and 1,3-butadiene.
- The sooty residue of gasoline engine exhaust is also a mixture of many chemicals. These include benzo(a)pyrene and other members of a group of Proposition 65-listed chemicals called polycyclic aromatic hydrocarbons.

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### How does exposure to gasoline engine exhaust occur?

- Exposure occurs by breathing air containing gasoline engine exhaust. Sources include gasoline-powered cars and trucks, recreational boats and other pleasure craft, generators, landscaping equipment (including lawnmowers, hedge trimmers, leaf blowers, and chainsaws), and other machinery.
- Exposure also occurs from contact with the sooty residue of gasoline engine exhaust, which can be absorbed through the skin or unintentionally ingested. This residue can settle on surfaces and stick to dust particles.

**Main ways you can be exposed to gasoline engine exhaust:****How can I reduce my exposure to gasoline engine exhaust?**

- ✓ Always start, run, and service gasoline engines in well-ventilated areas. Avoid operating them in enclosed spaces.
- ✗ Whenever practical:
  - ▶ Try not to idle gasoline engines, especially in [enclosed parking facilities](#).
  - ▶ Do not stand or allow your children to stand next to operating engines. Distance yourself from the source of the exhaust.
  - ▶ Stay no longer than necessary at service stations.
  - ▶ Stay out of work areas while at vehicle-repair facilities.
- ✗ Do not modify or tamper with a gasoline engine's exhaust system.
- ✓ Perform regular maintenance and frequent tune-ups of all gasoline-powered vehicles and equipment.
- ✓ When servicing or maintaining gasoline-powered engines, prevent skin contact with exhaust by wearing gloves. Wash your hands when done, and before preparing food and eating.
- ✓ Install backup and portable gasoline-powered generators away from your home so that exhaust does not come in through open windows and doors.
- ✓ Consider using hybrid or electric ([low-emission](#) or [zero-emission](#)) vehicles, and electric-powered [landscaping equipment](#), where possible.

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

- US Department of Health and Human Services (HHS)  
Agency for Toxic Substances & Disease Registry (ATSDR)
  - ▶ Gasoline, Automotive  
<https://wwwn.cdc.gov/TSP/substances/ToxSubstance.aspx?toxid=83>
- California Environmental Protection Agency (CalEPA)  
California Air Resources Board (CARB)
  - ▶ Low-Emission Vehicle Program  
<https://www.arb.ca.gov/msprog/levprog/levprog.htm>
  - ▶ Zero-Emission Vehicle (ZEV) Program  
<https://www.arb.ca.gov/msprog/zevprog/zevprog.htm>
  - ▶ Zero-Emission Landscaping Equipment  
<https://ww2.arb.ca.gov/our-work/programs/zero-emission-landscaping-equipment>
- US Department of Energy (DOE)  
Clean Cities Coalition Network
  - ▶ IdleBox: A Toolkit for Idling Reduction Education and Outreach  
<https://cleancities.energy.gov/technical-assistance/idlebox/>

**Scientific Information on Gasoline Engine Exhaust**

- California Environmental Protection Agency (CalEPA)  
Office of Environmental Health Hazard Assessment (OEHHA)
  - ▶ Gasoline-Related Air Pollutants in California  
<https://oehha.ca.gov/air/report/gasoline-related-air-pollutants-california-trends-exposure-and-health-risk-1996-2014>
- 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.  
<https://publications.iarc.fr/129>

**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>