



Perfluorooctane Sulfonate (PFOS)

Why am I being warned about potential exposure to perfluorooctane sulfonate (PFOS)?



- PFOS is on the [Proposition 65](#) list because it can cause birth defects or other reproductive harm. Exposure to PFOS during pregnancy may affect the development of the child.
- Proposition 65 requires businesses to determine if they must provide a warning about exposures to [listed chemicals](#).

What is PFOS?

- PFOS is a synthetic chemical used to make products resistant to stains, grease, soil and water.
- PFOS is part of a class of chemicals called [per- and polyfluoroalkyl substances \(PFASs\)](#).
- PFOS is widespread and persistent in the environment, and can be found in groundwater and water supplies. The chemical builds up over time in humans and wildlife. Most people have detectable levels of PFOS in their blood.

When and how has PFOS been used?

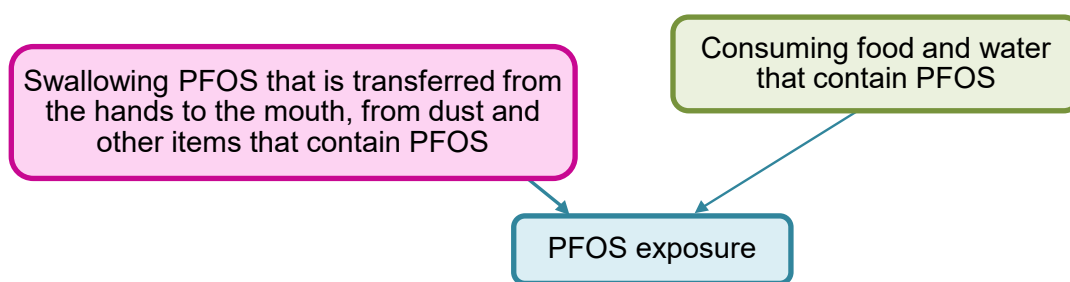
- Starting in the 1940s, PFOS was used in many consumer and industrial products, including carpets, rugs, upholstered furniture, non-stick cookware, and leather products. PFOS has also been present in some firefighting foams used at airports, firefighter training facilities, and military airfields.
- The principal US manufacturer of PFOS phased out its production of the chemical in the early 2000s.
- PFOS may still be present in imported products.

How does exposure to PFOS occur?

- Fish and shellfish can take up PFOS from water contaminated with the chemical.
- PFOS can be released into the air and into food from some older non-stick cookware.
- PFOS may be found in some older leather products.
- Some consumer products, including some older carpets, rugs, and upholstered furniture, can release PFOS into the air. PFOS then settles on floors and other surfaces, accumulating in dust.
- Some imported consumer products, including non-stick cookware, leather products, and stain- or water-resistant textiles, can contain PFOS and result in exposure to the chemical.

- Young children can be exposed to higher levels of PFOS than adults. This is because they often crawl and play on the floor and on carpets, get dust on their hands, and then put their fingers, toys, and other objects in their mouths. Young children may also consume proportionally more PFOS in food, given their smaller body size.
- PFOS has been found in [drinking water supplies](#) in various parts of the United States, including California. PFOS can enter groundwater from manufacturing and processing plants, or from airports, firefighter training sites, and military installations where it is used in firefighting foam. It can also enter water from PFOS-containing products in landfills.
- During pregnancy, PFOS can pass from mother to baby.

Main ways you can be exposed to PFOS:



How can I reduce my exposure to PFOS?

- ✓ Consider choosing non-stick cookware identified as PFOS- or PFAS-free.
 - ▶ If you use other types of non-stick cookware, including older items, it is best to use low or medium heat. Avoid overheating these items.
- ✓ When purchasing carpets, textiles, or outdoor gear, ask if the products contain PFOS or PFASs. Some manufacturers are eliminating these chemicals from their products, and may label their products as PFC-free. (PFC stands for perfluorinated chemicals, or perfluorocarbons, which are part of the larger class of PFASs.)
- ✓ Reduce your exposure to dust, which can contain PFOS:
 - ▶ Wash your hands and your child's hands frequently, especially before preparing food and eating.
 - ▶ Clean your floors regularly. If possible, use a wet mop or a vacuum cleaner with a high-efficiency particulate air (HEPA) filter.
 - ▶ Dust regularly, using a damp cloth.
- ✓ Contact your water supplier if you have questions or concerns about the possible presence of PFOS in your drinking water. Look for updates on California's efforts to monitor and report levels of [PFOS in drinking water supplies](#).

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

- US Environmental Protection Agency (US EPA)
 - ▶ Basic Information on PFAS
<https://www.epa.gov/pfas/basic-information-pfas>
- California Environmental Protection Agency (CalEPA)
California State Water Resources Control Board (SWRCB)
 - ▶ Per- and Polyfluoroalkyl Substances (PFAS)
<https://www.waterboards.ca.gov/pfas/>
- Office of Environmental Health Hazard Assessment (OEHHA)
 - ▶ Perfluorooctanoic Acid (PFOA)
<https://www.p65warnings.ca.gov/fact-sheets/perfluorooctanoic-acid-pfoa>

Scientific Information on PFOS

- US Environmental Protection Agency (US EPA)
 - ▶ Technical Fact Sheet - Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA)
https://www.epa.gov/sites/production/files/2017-12/documents/ffrrofactsheet_contaminants_pfos_pfoa_11-20-17_508_0.pdf
 - ▶ Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS)
https://www.epa.gov/sites/production/files/2016-05/documents/pfos_health_advisory_final_508.pdf
 - ▶ Health Effects Support Document for Perfluorooctane Sulfonate (PFOS)
https://www.epa.gov/sites/production/files/2016-05/documents/pfos_hesd_final_508.pdf
- California Environmental Protection Agency (CalEPA)
California State Water Resources Control Board (SWRCB)
 - ▶ Perfluorooctanoic acid (PFOA) and Perfluorooctanesulfonic acid (PFOS)
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/PFOA_P_FOS.html
- Biomonitoring California
 - ▶ California Regional Exposure (CARE) Study
<https://biomonitoring.ca.gov/care>

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>