

# Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS)

## Frequently Asked Questions

### What are PFAS?

PFAS are a large group of man-made chemicals that have been used in industry and consumer products worldwide since the 1950s.

- PFAS do not occur naturally, but are widespread in the environment.
- PFAS are found in people, wildlife and fish all over the world.
- Some PFAS can stay in people's bodies a long time.
- Some PFAS do not break down easily in the environment.



### How can I be exposed to PFAS?

PFAS contamination may be in drinking water, food, indoor dust, some consumer products, and workplaces. Most non worker exposures occur through drinking contaminated water or eating food that contains PFAS.

Although some types of PFAS are no longer used, some products may still contain PFAS:

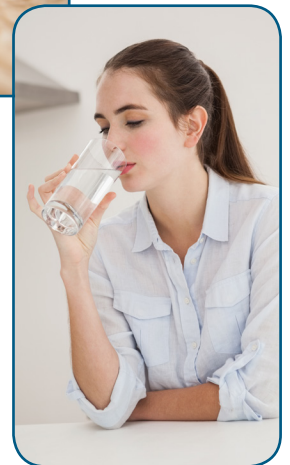
- Food packaging materials
- Nonstick cookware
- Stain resistant carpet treatments
- Water resistant clothing
- Cleaning products
- Paints, varnishes and sealants
- Firefighting foam
- Some cosmetics



### How can I reduce my exposure to PFAS?

PFAS are present at low levels in some food products and in the environment (air, water, soil etc.), so you probably cannot prevent PFAS exposure altogether. However, if you live near known sources of PFAS contamination, you can take steps to reduce your risk of exposure.

- If your drinking water contains PFAS above the EPA Lifetime Health Advisory, consider using an alternative or treated water source for any activity in which you might swallow water:
  - » drinking
  - » food preparation
  - » cooking
  - » brushing teeth, and
  - » preparing infant formula
- Check for fish advisories for water bodies where you fish.
  - » Follow fish advisories that tell people to stop or limit eating fish from waters contaminated with PFAS or other compounds.
  - » Research has shown the benefits of eating fish, so continue to eat fish from safe sources as part of your healthy diet.
- Read consumer product labels and avoid using those with PFAS.



## How can PFAS affect people's health?

Some scientific studies suggest that certain PFAS may affect different systems in the body. NCEH/ATSDR is working with various partners to better understand how exposure to PFAS might affect people's health—especially how exposure to PFAS in water and food may be harmful. Although more research is needed, research involving humans suggests that high levels of certain PFAS **may** lead to the following:

- Increased cholesterol levels
- Changes in liver enzymes
- Decreased vaccine response in children
- Increased risk of high blood pressure or pre-eclampsia in pregnant women
- Small decreases in infant birth weights
- Increased risk of kidney or testicular cancer

At this time, scientists are still learning about the health effects of exposures to mixtures of PFAS.

## How can I learn more?

You can visit the following websites for more information:

- **CDC/ATSDR:**
  - » CDC Info: <https://www.cdc.gov/cdc-info/>, or **(800) 232-4636**.
  - » [www.atsdr.cdc.gov/pfc/index.html](http://www.atsdr.cdc.gov/pfc/index.html)
  - » <https://www.cdc.gov/exposurereport/index.html>
- **Environmental Protection Agency (EPA):**  
<https://www.epa.gov/chemical-research/research-and-polyfluoroalkyl-substances-pfas>
- **Food and Drug Administration:**  
<https://www.fda.gov/food/newevents/constituentupdates/ucm479465.htm>
- **National Toxicology Program:**  
<https://ntp.niehs.nih.gov/pubhealth/hat/noms/pfoa/index.html>

If you have questions about the products you use in your home, please contact the **Consumer Product Safety Commission (CPSC)** at **(800) 638-2772**.

## List of Common PFAS and Their Abbreviations:

Abbreviation	Chemical name
<b>PFOS</b>	Perfluorooctane sulfonic acid
<b>PFOA (or C8)</b>	Perfluorooctanoic acid
<b>PFNA</b>	Perfluorononanoic acid
<b>PFDA</b>	Perfluorodecanoic acid
<b>PFOSA (or FOSA)</b>	Perfluorooctane sulfonamide
<b>MeFOSAA (aka Me-PFOSA-AcOH)</b>	2-(N-Methyl-perfluorooctane sulfonamido) acetic acid
<b>Et-FOSAA (aka Et-PFOSA-AcOH)</b>	2-(N-Ethyl-perfluorooctane sulfonamido) acetic acid
<b>PFHxS</b>	Perfluorohexane sulfonic acid