

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS)

Frequently Asked Questions

What are PFAS?

Perfluoroalkyl and polyfluoroalkyl substances (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.

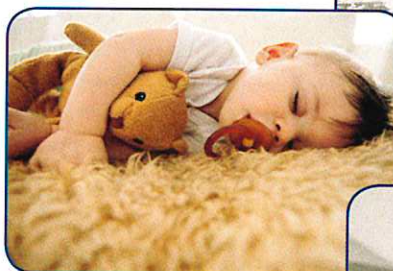


How can I be exposed to PFAS?

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, some studies in people have shown that certain PFAS may:

- affect growth, learning, and behavior of infants and older children
- lower a woman's chance of getting pregnant
- interfere with the body's natural hormones
- increase cholesterol levels
- affect the immune system and
- increase the risk of 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
 - » <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/newsevents/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
PFOS	Perfluorooctane sulfonic acid
PFOA (or C8)	Perfluorooctanoic acid
PFNA	Perfluorononanoic acid
PFDA	Perfluorodecanoic acid
PFOSA (or FOSA)	Perfluorooctane sulfonamide
MeFOSAA (aka Me-PFOSA-AcOH)	2-(N-Methyl-perfluorooctane sulfonamido) acetic acid
Et-FOSAA (aka Et-PFOSA-AcOH)	2-(N-Ethyl-perfluorooctane sulfonamido) acetic acid
PFHxS	Perfluorohexane sulfonic acid

Talking to Your Doctor about Exposure to PFAS



If you have been exposed to perfluoroalkyl and polyfluoroalkyl substances (PFAS) and are concerned about your health, you can tell your doctor.

You can share this fact sheet with your doctor to help start a conversation about how PFAS can affect your health.

1. Can exposure to PFAS cause health problems?

- 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.
- Some (but not all) PFAS build up in the body. The levels of some PFAS go down slowly over time once exposure stops. Scientists are studying how different amounts of PFAS in the body over time may affect health.
- More research is needed, but some studies in people have shown that certain PFAS may:
 - » affect growth, learning, and behavior of infants and older children
 - » lower a woman's chance of getting pregnant
 - » interfere with the body's natural hormones
 - » increase cholesterol levels
 - » affect the immune system
 - » increase the risk of cancer

If you have any of these conditions and have been exposed to PFAS, you can tell your doctor.

2. Should my family and I be tested for any of the health conditions possibly linked to PFAS exposure?

- Laboratory test results can't tell you if PFAS exposure has caused your health condition.
- Some of the health effects possibly linked to PFAS exposure, like high cholesterol, can be checked as part of your annual physical. It is important to have regular check-ups and screenings.
- You can tell your doctor about any exposure to PFAS and any symptoms you have.

3. Should my family and I get a blood test for PFAS if we have been exposed to PFAS?

- PFAS blood test results can tell you the amount of PFAS in your blood. However, test results won't tell you how PFAS will affect your health now or in the future.
- Blood testing for PFAS is not a regular test offered by doctors or health departments.
- If you want or need to know your PFAS blood levels, you can talk to
 - » your doctor or health care provider
 - » other health professionals (for example, for concerns about babies and children contact your regional Pediatric Environmental Health Specialty Unit or PEHSU: <http://www.pehsu.net/findhelp.html>).
- **Remember** that test results will only tell you and your health care provider if you have been exposed to PFAS.
- Keep in mind that most people in the United States have one or more specific PFAS in their blood, especially PFOS and PFOA.

4. Could exposure to PFAS in drinking water harm my health in the future?

We don't know if exposure to PFAS may cause health problems in the future. You can tell your doctor if you have been exposed to PFAS and ask if you need to be monitored for symptoms or conditions that may be caused by PFAS exposure (see list in question #1) in the future.

5. How will exposure to PFAS in drinking water affect my pregnancy?

Exposure to PFAS in drinking water at levels above the EPA Lifetime Health Advisory has been associated with pregnancy-induced high blood pressure. This complication can include not only high blood pressure, but also signs of damage to other organ systems, most often the liver and kidneys.

Tell your doctor if you have been exposed to PFAS so that he/she can provide appropriate medical care. Checking for high blood pressure should be part of your routine prenatal care. It is important to go to all of your prenatal checkups and discuss with the doctor or nurse any health concerns.

6. Can I breastfeed my baby if I've been exposed to PFAS in drinking water?

Nursing mothers should continue to breastfeed.

- While we do not know a lot about the health effects of exposure to PFAS in breast milk, we do know that the benefits of breastfeeding are well documented.
- PFAS in a mother's body can move from her blood into her unborn child and from her breastmilk into her breastfed baby. However, based on current science, the benefits of breastfeeding appear to outweigh the risks for infants exposed to PFAS in breast milk.
- Breastfeeding is good for the health of both infants and mothers.
- Scientists continue to do research in this area.
- If you have concerns, talk to your doctor.
- For more information about the benefits of breastfeeding, please visit: <https://www.womenshealth.gov/breastfeeding/breastfeeding-benefits.html>.

7. How can I learn more about PFAS?

- Contact **1-800-CDC-INFO** for updated information on PFAS.
- Visit the following websites:
 - » ATSDR website: <http://www.atsdr.cdc.gov/pfc/index.html>
 - » ATSDR's PFAS Clinician Factsheet: https://www.atsdr.cdc.gov/pfc/docs/pfas_clinician_fact_sheet_508.pdf
 - » Environmental Protection Agency website: <https://www.epa.gov/chemical-research/research-and-polyfluoroalkyl-substances-pfas>
- Contact your state health department.
- Contact the Consumer Product Safety Commission at **(800)-638-2772** if you have questions about the products you use in your home.