

Wisconsin Department of Health Services
<https://www.dhs.wisconsin.gov/chemical/pfas.htm>

Per- and Polyfluoroalkyl Substances (PFAS)

Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals that have been used since the 1950s. Perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) are the most widely produced and studied of these chemicals.

Although some of these substances have been phased out of production, such as those through the [PFOA stewardship program \(link is external\)](#), they may still be found in [everyday consumer products \(link is external\)](#), such as some grease-resistant paper, nonstick cookware, stain resistant fabrics, cleaning products, and other personal care products like shampoo and nail polish.

EXPOSURE:

Over half of our contact with PFAS are estimated to come from food. The main ways people come into contact with PFAS are:

- Eating food that was packaged in material that contains PFAS.
- Eating fish caught from water contaminated by PFAS (PFOS, in particular).
- Drinking contaminated water.
- Accidentally swallowing contaminated soil or dust.

People may also come into contact with PFAS by using some consumer products, such as non-stick cookware, stain resistant carpeting, and water repellent clothing.

Even though recent federal efforts to remove PFAS have reduced the likelihood of exposure, some products may still contain them. If you have questions or concerns about products you use in your home, contact the Consumer Product Safety Commission at (800) 638-2772.

HEALTH EFFECTS:

Scientists are still learning about the health effects that various PFAS can have on the body. The more widely used substances, like PFOS, PFOA, perfluorohexane sulfonic acid (PFHxS), and perfluorononanoic acid (PFNA), have been studied more than other PFAS.

Humans and animals react differently to PFAS, and not all effects observed in animals may occur in humans. It's therefore important for you to know:

- Scientists have ways to estimate how the exposure and effects in animals compare to what they would be in humans.

- What scientists learn from this process helps them decide how to protect people from harm caused by chemical exposure.

A large number of studies in people have examined possible relationships between levels of PFAS in blood and harmful health effects in people. However, most of these studies analyzed only a small number of chemicals, and not all PFAS have the same health effects. This research suggests that high levels of certain PFAS may:

- Increase cholesterol levels.
- Decrease how well the body responds to vaccines.
- Increase the risk of thyroid disease.
- Decrease fertility in women.
- Increase the risk of serious conditions like high blood pressure or pre-eclampsia in pregnant women.
- Lower infant birth weights; however, the decrease in birth weight is small and may not affect the infant's health.

One way to learn about whether PFAS will harm people is to conduct studies in lab animals. **Most of these studies have tested amounts of PFOA and PFOS that are higher than levels found in the environment.** These animal studies have found that PFOA and PFOS can cause damage to the liver and the immune system, birth defects, delayed development, and newborn deaths in lab animals.

Currently, several federal agencies are in the process of evaluating human health risks of PFAS. For instance, the CDC Agency for Toxic Substances and Disease Registry (ATSDR) recently released a draft review summarizing many of the studies on the toxicity of 14 different PFAS compounds. the Environmental Protection Agency (EPA) is taking [several actions to address PFAS \(link is external\)](#), including drafting risk assessments for some PFAS as well.

Most people in the U.S. have [PFAS in their blood \(link is external\)](#), similar to the low levels observed in blood for other industrial compound classes like flame retardants and plasticizers. While you can do a blood test to determine the amount of PFAS in your body, there is not enough research to determine the level at which we would expect to see health problems. ATSDR has more [information on blood testing](#)