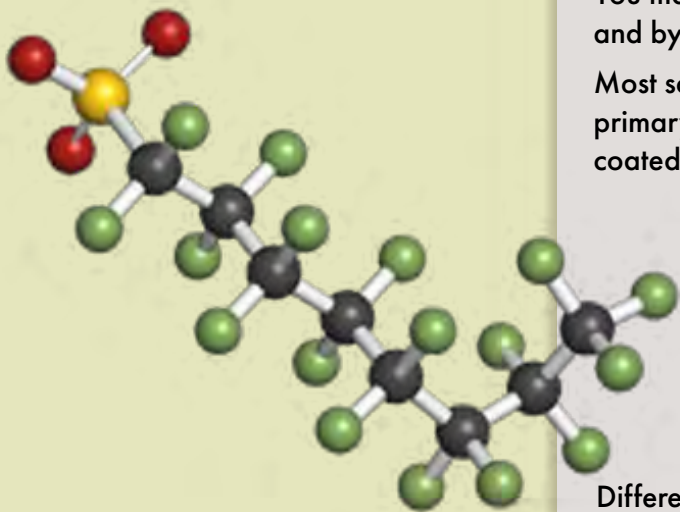


PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS)

What are PFAS?

Per- and polyfluoroalkyl substances (PFAS) are a large group of man-made chemicals used to make household products that are stain-resistant, waterproof and nonstick. PFAS are in many products like carpet, upholstery, cookware, food packaging and fire-fighting foam. Although many U.S. companies have stopped using certain PFAS chemicals, they are still commonly used in consumer products.



How do PFAS get into the environment?

PFAS are found in the environment and can be released into the air, water and soil when produced or used. PFAS in soil can seep into groundwater. Once in the environment, PFAS can remain intact for a long time.

PFAS can build up in the bodies of animals and have been found in the blood of mammals, fish and birds. Because there are many different chemicals in the PFAS family, scientists do not fully understand their impact on human health and the environment. Research is ongoing.



How am I exposed to PFAS?

You may be exposed to PFAS in the air, indoor dust, food, drinking water and by using some household products.

Most scientists believe that swallowing contaminated food and water is the primary way PFAS enters your body. For example, food stored in PFAS-coated packaging can become contaminated.

Scientific studies have shown that PFAS are not easily absorbed through the skin. Hence, bathing or showering in water contaminated with PFAS is not typically how the chemicals enter your body.

Can PFAS cause health problems?

Different chemicals in the PFAS family may cause various health problems. Some studies have shown a relationship between PFAS chemicals in the body and a higher chance of some diseases. Certain PFAS chemicals, like Perfluorooctanoic acid (PFOA) and Perfluorooctane sulfonate (PFOS), have been studied more than others, so their health effects may be better understood.

Many but not all studies in humans show that certain PFAS chemicals may harm developing fetuses and cause problems during childhood development. PFAS may also raise cholesterol, damage the immune system, change the body's natural hormone levels, lower fertility, and increase cancer risks.

How can I reduce my family's exposure?

Children can be more susceptible to PFAS impacts due to hand and mouth ingestion and close contact with stain-resistant carpeting, causing inhalation of PFAS-containing dust.

- Children may be more sensitive to the effects of PFAS.
- Children consume more water and food per pound of body weight than adults.
- Most water, oil and stain-resistant products contain PFAS. Check labels and avoid products with ingredients containing "fluoro" in the name as this indicates a type of PFAS.
- Limiting PFAS-containing products in the home and frequent vacuuming with a HEPA filter can decrease exposure.

How is North Dakota addressing PFAS?

Environmental Quality scientists and chemists have been testing for PFAS in our state since 2018. We continue to sample drinking water, groundwater, surface water, landfill areas, biosolids, wastewater, and facilities that have historically used PFAS-containing firefighting foam.

We monitor new research and science as it develops regarding PFAS and closely track proposed Maximum Contaminant Levels (MCLs) being developed by the EPA.



Where can I get more information?

Environmental Quality is working to identify potential sources of PFAS in the state. You can find sampling studies and other information about PFAS online at [DEQ.nd.gov/MF/PFAS](https://deq.nd.gov/MF/PFAS).

Other PFAS Resources Include:

- EPA.gov/pfas
- ATSDR.cdc.gov/pfas/
- FDA.gov/food/environmental-contaminants-food/and-polyfluoroalkyl-substances-pfas
- CDC.gov/biomonitoring/PFAS_FactSheet.html