

# Per- and Poly-Fluoroalkyl Substances (PFAS): Frequently Asked Questions



## What are PFAS?

PFAS is an acronym for a family of over 10,000 chemicals called per- and poly-fluoroalkyl substances. This large synthetic group of chemicals is characterized by a fully or partially fluorinated carbon chain and are often difficult to break down. They do not occur naturally, but have now been widely dispersed and are for the most part, ubiquitous in the environment globally. These chemicals have been used in industrial, commercial, and consumer products since the 1940s.

## Why are PFAS a concern?

PFAS are often referred to as 'Forever Chemicals' due to their chemical persistence and difficulty in breaking down. As a result of exposure, PFAS tend to accumulate and concentrate in organisms over time. Studies are finding that these man-made compounds have shown potential health effects on humans, aquatic life, and wildlife. PFAS have been detected in the air, soil, water, and wastewater, and have also been found in human blood and animal tissue.

## How are PFAS used?

PFAS have the ability to reduce friction, so they are used in a variety of industrial applications including aerospace, automotive, building and construction, and electronics. They are used for fire suppression because they can quickly douse fuel fires. They are also used to keep food from sticking to cookware, make food packaging resistant to grease absorption, make sofas and carpets resistant to stains, and make clothes and mattresses waterproof. In addition, PFAS are used in many personal hygiene products.

## How are we exposed to PFAS?

Exposure to PFAS can occur in many different ways. They are widely spread throughout the world and environment. Some of the more frequent ways to be exposed are:

- Working in occupations such as firefighting, military, airports, or chemical manufacturing and processing
- Drinking water that is contaminated with PFAS
- Eating foods that may be contaminated with PFAS
- Swallowing contaminated soils or dust
- Breathing air that contains PFAS
- Using products that are made with the PFAS chemicals or that are in materials that are made with PFAS

## What are the health effects?

EPA studies have shown that over long periods of time, PFAS may lead to negative health effects on pregnant women and developing babies, weaken immune systems, cause an increase in various cancers and liver damage, elevate cholesterol levels, and increase heart related illnesses.

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## **What technologies are currently available to reduce PFAS in drinking water?**

Researchers have studied a variety of technologies to determine which methods will work best to remove PFAS from drinking water. Three treatments show promising results:

- Activated carbon (GAC)
- Ion exchange treatment
- High-pressure membranes

## **Are PFAS in the source water that NBU treats and distributes?**

As an emerging contaminant that is unregulated, NBU has not been required to sample any of its water supplies for PFAS. However, PFAS do fall under the Unregulated Contaminant Monitoring Rule (UCMR5), and NBU will begin testing its water sources under this rule in June 2024 and December 2024.