

**PFAS TEST RESULTS**  
**MAHONING VALLEY SANITARY DISTRICT**

PFAS Compound	Statewide Action Level (ng/L)	August 2020	
		EP001 Treated Water (ng/L)	RS001 Raw Water (ng/L)
PFOA	>70 single or combined with PFOS	<5	<5
PFOS	>70 single or combined with PFOA	19	33
GenX	>700	<25	<25
PFBS	>140,000	<5	<5
PFHxS	>140	5.3	6.6
PFNA	>21	<5	<5

**These results indicate you have at least one PFAS present in finished water above the reporting level and, follow-up quarterly monitoring will be conducted for at least one year by the OEPA.**

# PFAS in Drinking Water

## What are PFAS?

Per- and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals applied to many consumer goods to make them waterproof, stain resistant, or nonstick. PFAS are also used in products like cosmetics, fast food packaging, and a type of firefighting foam called aqueous film forming foam (AFFF) which are used mainly on large spills of flammable liquids, such as jet fuel.

## How do PFAS get into drinking water?

PFAS enter the environment at sites where they are made, used, disposed of, or spilled. PFAS are mobile and transported through rainwater run-off and enter surface water (lakes, ponds, etc.) or seep through the soil and migrate into groundwater (underground sources of drinking water). Because PFAS are very long-lasting and are not easily broken down by sunlight or other natural processes, they may remain in water for many years.

If a public water system or your private well gets its water from a surface or groundwater source that is contaminated with PFAS, and the water is not properly treated to remove the PFAS, the chemicals may be in your drinking water and can pass into your body when you ingest (drink or eat food cooked in) them.

## What are the health effects of drinking water that contains PFAS?

There are many chemicals in the PFAS family, and they may cause different health effects if you are exposed to them. Some, but not all, studies in humans with PFAS exposure have shown that certain PFAS may:

- Affect growth, learning, and behavior of infants and children;
- Lower a woman's chance of getting pregnant;
- Interfere with the body's natural hormones;
- Increase cholesterol levels;
- Affect the immune system; or
- Increase the risk of certain cancers.

Scientists are still learning about the health effects of exposures to mixtures of PFAS. Laboratory animals exposed to high doses of one or more PFAS chemicals have shown changes in liver, thyroid, and pancreas function, as well as some changes in hormone levels. Because animals and humans process these chemicals differently, more research will help scientists fully understand how PFAS affect human health.

Exposure to PFAS does not always mean a person will have health effects. Whether a person gets sick depends on how long they were exposed (duration), how often they were exposed (frequency), and how much PFAS they were exposed to (dose). Personal factors like age, lifestyle, and other illnesses may also contribute to whether a person gets sick. Young children, infants, and unborn babies may be at more risk of health effects.

## What levels of PFAS in drinking water are unsafe?

The Ohio Environmental Protection Agency (OEPA) and the Ohio Department of Health (ODH) have established PFAS Action Levels for the six PFAS chemicals listed in the table below. OEPA and ODH use these action levels as thresholds in providing guidance to residents, drinking water system owners and operators on health effects, ways to reduce exposures, and options for treating drinking water.

PFAS Chemicals <sup>1</sup>						
	PFOA	PFOS	GenX	PFBS	PFHxS	PFNA
Action Level (ppt) <sup>2</sup>	>70 single or combined with PFOS	>70 single or combined with PFOA	>700	>140,000	>140	>21

<sup>1</sup> PFOA (Perfluorooctanoic acid); PFOS (Perfluorooctane sulfonate); GenX (HFPO dimer acid); PFBS (Perfluorobutanesulfonic acid); PFHxS (Perfluorobexane sulfonic acid); and PFNA (Perfluorononanoic acid).

<sup>2</sup> PPT (Parts per trillion)

## How can I test my water and what are treatment options if PFAS is present?

### Water Testing

Ohio residents who get their water from a private water system (well, spring, pond, cistern, or hauled water storage tank) may be interested in having their water tested. Because PFAS are in many items most people use daily, including waterproof or stain-resistant fabrics, personal hygiene products, and food and beverage packaging, it is difficult to collect a sample without contaminating it. It is recommended that water samples be collected by someone specifically trained to sample drinking water for PFAS analysis. Ohio's PFAS [webpage](#) provides a list of labs and resources for water testing. If you receive your water from a public water system, you may contact the utility to obtain more information.

### Water Treatment

Based on the laboratory results, you may want to install a PFAS water treatment system in your home. These treatment systems may be:

- At the point of entry (POE) where treatment for all the water entering the household plumbing system occurs; or
- At the point of use (POU) which is often at the kitchen sink or primary source of water for drinking or cooking (potentially also including a water line to the refrigerator if it has a plumbed in water line).

Either type of water treatment system has pros and cons that should be considered before selecting the best treatment option for a home. The type of treatment system chosen should consider the volume of water that will be used in the home, the number and location of sites where water is consumed in the home, and the type of PFAS chemicals identified by laboratory testing.

## For More Information

For more information on PFAS, including the health effects of PFAS, PFAS in drinking water, water testing and treatment, and other PFAS activities in Ohio, visit the Ohio PFAS webpage here: [pfas.ohio.gov](https://pfas.ohio.gov).

For more information on PFAS and your health, contact the ODH Health Assessment Section at [BEH@odh.ohio.gov](mailto:BEH@odh.ohio.gov) or at (614) 728-9452.

# How to Reduce Your Exposure to PFAS

## What are PFAS?

Per- and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals applied to many consumer goods to make them waterproof, stain resistant, or nonstick. PFAS are also used in products like cosmetics, fast food packaging, and a type of firefighting foam called aqueous film forming foam (AFFF) which is used mainly on large spills of flammable liquids, such as jet fuel.

Although many U.S. companies have stopped using certain PFAS chemicals in their products, PFAS are still commonly used in foreign products that can be imported and sold in the U.S.

PFAS used to be called perfluoro chemicals, or PFCs, but this term is no longer used.

**There are dozens of chemicals in the PFAS family. Some of the more well-known and well-studied PFAS include:**

- PFOS
- PFOA (C8)
- PFHxS
- PFNA

## How might I be exposed to PFAS?

**A Centers for Disease Control and Prevention (CDC) study from 2003-2004 found that PFAS were present in 98 out of every 100 (98%) blood samples they studied out of thousands of samples.**

PFAS may enter a person's body when they ingest (eat or drink) it, or if they inhale (breathe in) PFAS dust. Food cooked in cookware or packaging that contains PFAS may become contaminated, and when a person eats that food, he or she will introduce PFAS into his or her body. Home textiles like furniture upholstery, carpeting, rugs and clothing that have been treated with PFAS-based stain-resistance or waterproofing treatments can shed dust that contains PFAS chemicals, and people, especially babies and young children who tend to crawl close to the ground, may inhale the dust.

In communities where PFAS have entered drinking water supplies, drinking water can be an additional source of exposure if it is not properly treated to remove chemicals. This includes food, ice, and baby formula prepared with contaminated water.

Scientific studies have shown that PFAS do not absorb easily through the skin. Bathing or showering in water contaminated with PFAS or simply touching an object that contains PFAS is not a main exposure route.

## Can PFAS cause health effects?

Being exposed to PFAS does not mean you will necessarily have health effects.

Whether you get sick from exposure to any chemical depends on how much you were exposed to (dose), how long you were exposed for (duration), and how often you were exposed (frequency).

There are many chemicals in the PFAS family, and they may cause different health effects if you are exposed to them. Scientists are still learning about PFAS and their effects on human health. Some, but not all, studies in humans with PFAS exposure have shown that certain PFAS may:

- Affect growth, learning, and behavior of infants and children;
- Lower a woman's chance of getting pregnant;
- Interfere with the body's natural hormones;
- Increase cholesterol levels;
- Affect the immune system; or
- Increase the risk of certain cancers.

Always talk with your doctor or primary care provider if you are concerned about your health or have medical questions.

## How can I reduce my PFAS exposure?

Although avoiding all exposures to all sources of PFAS may not be possible due to the wide use of PFAS in many consumer products, following the recommendations below can help a person reduce their exposure greatly.

Treating drinking water that contains PFAS or using an alternate source (like bottled water) for drinking, cooking, making ice, and preparing infant formula is one way to reduce exposures. See the PFAS Whole House or Point of Use Treatment Fact sheets for more information at [pfas.ohio.gov](https://pfas.ohio.gov).

Know whether the products you buy were made with PFAS, especially if they are non-stick, stain-resistant, or waterproof. Some products known to contain PFAS include (**NOTE** – some manufacturers for the below products may not use PFAS to make their products):

- **Non-stick cookware.** Instead of non-stick cookware, opt for ceramic, stainless steel, or cast iron. If the coating on your non-stick cookware begins to peel, do not use it.
- **Fast food containers and processed food packaging** like French fry cartons, pizza boxes, and microwave popcorn bags.
- **Stain-resistant carpets, rugs, and furniture.** Avoid using optional stain-resistant sprays and treatments on home textiles.
- **Waterproof clothing** like rain jackets, gloves, and boots. Avoid using optional waterproofing sprays on clothing and footwear. Although there is little risk from having skin contact with these products (since PFAS don't easily absorb into skin), they may shed fibers that can be inhaled or swallowed.
- **Cosmetics and personal care products.** Read the ingredients on cosmetics and personal care products, like dental floss, and look for words beginning with "fluoro-", "perfluoro-", or "polyfluoro-".

Dust the surfaces in your home often to reduce PFAS dust from products like carpet, upholstery, and clothing that was manufactured or treated with PFAS.

For more information on PFAS and your health, visit the Ohio PFAS website here: [pfas.ohio.gov](https://pfas.ohio.gov).

Or contact the ODH Health Assessment Section at [BEH@odh.ohio.gov](mailto:BEH@odh.ohio.gov) or by calling 614-728-9452.