

PFAS

AND YOUR COMMUNITY



What are PFAS?

PFAS refers to per- and poly-fluoroalkyl substances, a group of chemicals that have been used in a wide range of applications since the 1940s. The man-made chemicals are used in firefighting, stain resistance, water repellants, and other industrial applications.

- Thousands of different chemicals are in the PFAS family, but modernizations in manufacturing processes have led to innovations that minimize potential adverse effects.
- Long-chain chemicals PFOA and PFOS were the most extensively manufactured, but were phased out of production in the early 2000s in the United States and Europe.

- PFOA and PFOS are problematic due to their long half-lives, meaning they can bioaccumulate in the environment and in our bodies.
- While the U.S. no longer manufactures PFOA and PFOS, goods that may contain these chemicals are still imported.
- PFOA and PFOS may also be present in landfills receiving waste since the 1950s and facilities using aqueous film forming foams (AFFF) such as fire-training facilities, civilian and military airports, petroleum terminals, and refineries.

Have I been exposed to PFAS?

Given the widespread use of these chemicals, most Americans have had some level of exposure. Exposure can occur through drinking water, food, inhalation, use of consumer products that contain PFAS, or from working in manufacturing facilities that use PFAS chemicals. An estimated 15 million people have exposure levels higher than the EPA's lifetime Health Advisory Level (HAL).

What are the health impacts of PFAS?

The range of health impacts are unclear due to the thousands of chemicals within the PFAS class. However, 14 chemicals have been extensively studied, including PFOA and PFOS, and the following associations exist between health impacts and exposure levels:

- Liver damage
- Kidney damage
- Increased cholesterol levels
- Pregnancy-induced hypertension
- Certain types of cancer
- Increased risk of thyroid disease
- Increased risk of decreased fertility
- Increased risk of asthma diagnosis
- Decreased response to vaccines

Is there a “safe” level of PFAS in drinking water?

A safe level has not yet been established at the federal level. Various states have issued their own guidelines.

- EPA issued a lifetime “health advisory level” (HAL) of a combined 70 parts per trillion for PFOA and PFOS in May 2016. This advisory level is equal to approximately one grain of salt in 1000 gallons of water.
 - The HAL is non-enforceable and is simply an advisory.
 - A study released by the federal government suggested safe levels of exposure could be much lower than 70 parts per trillion.
- EPA began the process of making a regulatory determination for PFOS and PFOA in May 2018, but a final determination or establishment of a Maximum Contaminant Level is expected to take years.
- Several states have adopted their own exposure limits for PFAS chemicals.
- Because of the pervasiveness of the chemicals, determining adequate and accurate toxicology values is paramount.

How do I know if my water is safe to drink?

NGWA encourages routine testing for a range of contaminants in wells and well systems. Testing for PFAS is more complex, and EPA requires the use of testing method 537 to determine contaminant levels. Currently, only a handful of labs across the United States use this method. If interested in having your water tested, visit the following web page for a list of qualified testing labs that use method 537: <https://www.epa.gov/sites/production/files/2016-10/documents/ucmr3-lab-approval.pdf>

What is the federal government doing to ensure drinking water is safe from PFAS contaminants

EPA announced development of a four-part action plan in March 2018 and released details of the action plan in February 2019. The four parts of the action plan are:

1. EPA will initiate steps to evaluate the need for a maximum contaminant level (MCL) for PFOA and PFOS. EPA will convene our federal partners and examine everything we know about PFOA and PFOS in drinking water.
2. EPA is beginning the necessary steps to propose designating PFOA and PFOS as “hazardous substances” through one of the available statutory mechanisms, including potentially CERCLA Section 102.
3. EPA is currently developing groundwater cleanup recommendations for PFOA and PFOS at contaminated sites. The cleanup recommendations were made available for public comment
4. EPA is taking action in close collaboration with our federal and state partners to develop toxicity values for GenX and PFBS. More information can be found at: <https://www.epa.gov/pfas>

What resources are available to learn more

- NGWA and its members prepared a comprehensive guidance document called “*Groundwater and PFAS: State of Knowledge and Practice*” in the fall of 2017. The document contains information on human impacts, risk communication, and remediation, among other topics. More info at www.ngwa.org/pfas
- The Agency for Toxic Substances and Disease Registry (ATSDR) has released a draft Toxicological Profile. More info at <https://www.atsdr.cdc.gov/>
- Information on the latest developments at EPA can be found at www.epa.gov/pfas

With questions or to get involved with NGWA efforts on PFAS, please contact Ben Frech at bfrech@ngwa.org.