

What are PFAS?

Polyfluoroalkyl substances (PFAS) are a large group of man-made toxic chemicals. PFAS are used to make consumer products resistant to water, grease or stains, including Gore-Tex rain gear, Teflon no-stick cookware and Scotchguard stain-repellent for carpets or furniture fabric. PFAS have also been used in firefighting foams. Two of the chemicals in the PFAS family that were commonly used and produced are perfluorooctanoic acid (PFOA, also referred to as C8) and perfluorooctane sulfonic acid (PFOS). While PFOA and PFOS are phased out of production, shorter-chain perfluoroalkyl-based products have been developed to replace these chemicals.

A note on language: *We will refer to PFAS, the larger group of chemicals, unless referring to communities, data or regulations that are specifically dealing with either PFOA or PFOS. As with many classes of chemicals, the same group may be called by many different names, so always read carefully.*

Fast Facts

A survey conducted in 2013-2015 found PFAS in public drinking water supplies serving 6 million U.S. residents in excess of the EPA health advisory levels.

As of 2015, PFAS were detectable in public water systems in 33 states at minimum reporting levels.

In Bennington, VT, where PFOA contaminates the water supply, blood sampling has shown median PFOA levels nearly five times the national average.

PFAS have been found in some drinking water in all six New England states.

How are we exposed to PFAS?

Major sources of exposure to PFAS come from our diet and our indoor environment, in products like treated carpets and food packaging – in fact, nearly everyone tested has shown at least low levels of PFAS in their blood. But, for residents whose water is contaminated with PFAS, drinking water may be the biggest threat. Because of their chemistry, PFAS travel easily through water, far from the locations where they were initially released into the environment. Some PFAS are extremely persistent in the environment, which means they last a long time and harmful exposure is possible even after the active contamination has stopped. Contaminated water is most likely to be found near manufacturing facilities that have used PFAS, wastewater treatment facilities, and areas where the chemicals were used in firefighting foams, including military bases. Exposure may also occur by eating fish caught in contaminated water. Additionally, workers in facilities using PFOA and PFOS may have highly elevated exposures.

Are PFAS regulated by the government?

No. In 2016, EPA issued health advisories suggesting that any combined exposure to PFOA and PFOS over 70 parts per trillion (ppt) over the course of a lifetime is unsafe. However, health advisories are non-enforceable and there are no national regulations for PFOA or PFOS in drinking water.

Nearly all states have primacy over the EPA, meaning that they can set more protective guidelines if they have the ability to measure and remove the contaminant. For example, Vermont's PFOA health advisory is 20 ppt, which is much stronger than that of the EPA; Massachusetts, on the other hand, has not set its own advisory level.

If there are no regulations for it, does that mean it's not dangerous?

No. The Safe Drinking Water Act says that a nation-wide standard cannot be established until the following three conditions are met: the EPA must find that a chemical has adverse health effects, that it occurs frequently at levels of public concern, and that there is a meaningful opportunity for health risk reduction for people served by public water systems. This means that a chemical could be suspected – or even proven – to have adverse health effects, but if public water systems across the country lack the capacity to remedy the threat, a national standard cannot be established.

What are the potential health threats?

Research has shown probable links between PFAS exposure and testicular and kidney cancer, thyroid disease, high cholesterol, ulcerative colitis, and pregnancy-induced hypertension. In animal studies, PFAS are shown to have adverse effects on multiple organs, cause developmental problems to offspring, reduce immune function, and disrupt normal endocrine activity. Once PFAS are in the body, they bioaccumulate and will remain until they are excreted in urine or feces over many years.

What can I do?

If you are on a public water supply, check your Consumer Confidence Report, which is publically available and should be communicated yearly to all consumers. If PFAS are not listed, or if you are on well water, you can order a sampling kit yourself through a state-certified laboratory. Testing for PFAS is a complex process and not all labs have the ability to test for it, so it is crucial to ensure that you are using a lab with the proper certifications. Reach out to your state Department of Environmental Protection to have them coordinate with the polluter to pay for the tests or join together with your neighbors to save costs. Do not just hire the lowest cost laboratory!

Contaminated well water can be treated by at-home water filters *only if* they are specifically designed to capture PFAS. It is important to know that many store-bought filters are not able to remove PFAS.

Communities across the country are fighting for a responsible answer to PFAS contamination in their water supplies. Connecting with other concerned residents and community groups could help you see how best to address the issues in your own community.

References

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Get help now

Toxics Action Center works side-by-side with communities across New England, providing residents with the skills and resources needed to prevent or clean up pollution at the local level. Toxics Action Center trains neighbors to not only defend their health and safety, but to think strategically and come together for proactive, positive change. Visit toxicsaction.org, call 617-292-4821 or email info@toxicsaction.org for more information and to get help now.



Health Studies Guide

Are you concerned about PFAS in your drinking water? Would conducting a health study facilitate the change you want to see? The Health Studies Guide is designed to help community groups clarify questions and goals, determine whether or not a health study is an appropriate strategy to investigate an environmental health concern, and develop a strategic plan to ensure that the health study produces the information that the community wants and needs. The Health Studies Guide is free and available online at www.bu.edu/sph/health-studies-guide

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