

Per- and Polyfluoroalkyl Substances (PFAS)

What are PFAS?

The per- and polyfluoroalkyl substances (PFAS) are large group of manufactured (man-made) chemicals. Perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) are the two most widely studied PFAS substances. These substances are used in the manufacturing of a variety of everyday products. They have been used to make water, grease, or stain resistant products including carpets, clothing, furniture fabrics (e.g., Scotchgard™), cookware (e.g., Teflon®), food packaging, and for other industrial processes.

PFAS are a concern because they are long lasting chemicals which breakdown very slowly over time. This is due to the carbon, fluorine, and other elemental bonds in these compounds. They can enter groundwater through landfills, septic systems, nearby industrial facilities where these substances were produced or used during manufacturing. Other potential sources of contamination include oil refineries, airfields, and locations where the chemicals were used for firefighting purposes.

What are the potential health effects of PFAS?

Research is still being conducted to better understand what the potential effects are of PFAS. However, there is evidence from research that exposure to PFOA and PFOS can cause increased cholesterol levels, low infant birth weights, effects on the immune system, cancer (PFOA), and thyroid disruption (PFOS). Additional studies on laboratory animals indicate reproductive and developmental, liver, kidney, and immunological effects. Since PFOA and PFOS have been used in an array of consumer products most people have been exposed to low levels.

To protect the general public, the Environmental Protection Agency (EPA) has established a health advisory level for PFOA and PFOS in drinking water of 70 parts per trillion (ppt), which is equivalent to 0.00007 micrograms per liter (ug/L). When both PFOA and PFOS are found in drinking water, the combined levels should be compared to the health advisory level of 70 ppt. Some states may have recommended levels even lower than those provided by EPA. Additionally, some states may include more that just PFOA and PFOS within their recommended Maximum Contaminant Level (MCL). Check with your state environmental agency for more information.

If you suspect contamination or experience illness, stop drinking or cooking with the water immediately and do not resume use until testing has proven it to be safe. Always seek the advice of your medical doctor if you have any health concerns.

How do I test for PFAS?

There is no taste, smell, or color associated with PFAS. The only way to know if your water is contaminated with these chemicals is to have your water tested. Testing for these chemicals can be expensive but should be performed especially in areas near industrial manufacturing facilities. Some states may have PFAS testing requirements for real estate transactions. Contact your local or state health department or the wellcare® Hotline at 888.395.1033 for a list of state-certified laboratories in your area or use our [interactive map](#).

What are the treatments for PFAS in well water?

If testing confirms that water contains PFOA and PFOS at individual or combined levels greater than 70 ppt, you should use water treatment to reduce these levels. Some treatment types that have shown to be effective in removal of PFOA and PFOS are granular activated carbon (GAC) filtration, reverse osmosis, and ion exchange. Look for treatment systems that are certified by [NSF](#) or [Water Quality Association \(WQA\)](#). Certified water treatment professionals can help you select the right treatment. To locate a certified water treatment professional in your area, visit [WQA's website](#).

It is imperative to maintain treatment devices and change filters as specified by the manufacturer or your water treatment professional. You should also retest your water after treatment is installed and after maintenance to confirm the effectiveness of the device. When discarding media or filters, it is important to properly dispose of the material. Please contact your state's hazardous waste division for assistance with disposal.

NOTE: Boiling your water WILL NOT remove PFAS, and in fact may increase the concentration in your water.

For More Information on PFAS

Contact your state health department, local certified water treatment professional, or the wellcare® Hotline for more information on PFAS.

U.S. Environmental Protection Agency. *Per- and polyfluoroalkyl substances (PFAS)*. <https://www.epa.gov/pfas>

U.S. Environmental Protection Agency. *Drinking Water Health Advisories for PFOA and PFOS*.
<https://www.epa.gov/ground-water-and-drinking-water/drinking-water-health-advisories-pfoa-and-pfos>

National Institute of Environmental Health Sciences. *Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS)*.
<https://www.niehs.nih.gov/health/topics/agents/pfc/index.cfm>

NSF. *Search for NSF Certified Drinking Water Treatment Units, Water Filters*. <https://info.nsf.org/Certified/DWTU/>

Center for Disease Control and Prevention. *Per- and Polyfluorinated Substances (PFAS) Factsheet*.
https://www.cdc.gov/biomonitoring/PFAS_FactSheet.html



Information to help maintain and protect your water well system:

wellcare® is a program of the Water Systems Council (WSC). WSC is the only national organization solely focused on protecting the health and water supply of more than 13 million households nationwide who depend on private wells.

This publication is one of more than 100 wellcare® information sheets available FREE at www.watersystemscouncil.org.

Well owners and others with questions about wells and well water can contact the wellcare® Hotline at 1-888-395-1033 or visit www.wellcarehotline.org to fill out a contact form or chat with us live!

JOIN THE WELLCARE® WELL OWNERS NETWORK!

By joining the FREE wellcare® Well Owners Network, you will receive regular information on how to maintain your well and protect your well water.

Contact us at 1-888-395-1033 or visit www.wellcarehotline.org to join!