



Per- and polyfluoroalkyl substances (PFAS)

Information for Private Well Owners

Updated: August 13, 2021

Per- and polyfluoroalkyl substances (PFAS) contamination has been identified in groundwater at some locations in Virginia.

What are Per- and polyfluoroalkyl substances (PFAS)?

PFAS are a group of chemicals that have been used to manufacture carpets, clothing, furniture fabric, food packaging, nonstick cookware, and firefighting foams. They are fire resistant and repel oil, stain, grease, and water. Areas of Virginia where PFCs have been identified in groundwater to date largely have been associated with the use of firefighting foams.

What is the relationship between PFAS and drinking water?

There are currently no Safe Drinking Water Act (SDWA) Maximum Contaminant Levels (MCL) established for PFAS. The U.S. Environmental Protection Agency (EPA) has set lifetime Health Advisory Levels for exposure in drinking water for two PFAS: perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS). The EPA has not set Health Advisory Levels for the other PFAS. EPA's health advisories are non-enforceable and non-regulatory and provide technical information to state agencies and other public health officials on health effects, analytical methodologies, and treatment technologies associated with drinking water contamination. Health advisories for PFOS and PFOA address ingestion; activities such as bathing, dishwashing, and laundering are not identified as risk factors.

What health risks are associated with PFAS?

The EPA advised there is evidence that exposure to PFAS can lead to adverse health outcomes in humans. If humans, or animals, ingest PFAS (by eating or drinking food or water that contain PFAS), the PFAS are

absorbed, and can accumulate in the body. PFAS stay in the human body for long periods of time. As a result, as people are exposed to PFAS from different sources over time, the level of PFAS in their bodies may increase to the point where they suffer from adverse health effects.

Studies indicate that PFOA and PFOS can cause reproductive and developmental, liver and kidney, and immunological effects in laboratory animals. Both chemicals have caused tumors in animal studies. The most consistent findings from human epidemiology studies are increased cholesterol levels among exposed populations, with more limited findings related to: infant birth weights, effects on the immune system, cancer (for PFOA), and thyroid hormone disruption (for PFOS).

What can I do to protect my family's health?

- Consider using a household treatment system. The National Sanitation Foundation (NSF) has certified certain systems for home treatment for PFOS and PFOA. For more information: <https://www.nsf.org/news/consumer-tips-for-choosing-a-drinking-water-filter-to-reduce-contaminants>.
- As is always the case, private well users who desire testing their water supply may do so. VDH recommends that private well users [test their well water periodically](#). With respect to PFOS and PFOA, there are some [commercial laboratories](#) that provide these analyses. Contact a laboratory for information on sample collection, containers, shipping, and cost.

For more information: <https://www.epa.gov/pfas>