PFAS and Private Wells

PFAS History

The Iowa Department of Natural Resources (DNR) is currently implementing an action plan to protect the health of Iowa residents and the environment from a group of "forever chemicals" that were used in non-stick coatings, carpet, clothing, furniture fabrics, paper packaging for food, chrome plating, and firefighting foams. These emerging contaminants are known as per- and polyfluoroalkyl substances (PFAS) and were used in manufacturing previously mentioned products starting in the 1940s. Scientific literature has suggested that exposure to PFAS may result in health effects such as developmental defects in fetuses and infants, and certain types of cancer. These substances accumulate in human tissue and blood after exposure and have a long half-life in the body. Two of the most commonly known and potentially harmful long-chained PFAS substances, known as perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS), were phased out of production in the United States by 2017, however, China is still known to produce PFOS.

Historically, the manufacturing and use of PFAS in Iowa is relatively low compared to other states which have set their own standards for PFAS in water supplies. From 2013 to 2015 Iowa tested 57 public water supply systems and found no detections of PFAS for the six compounds analyzed. In 2018, Iowa Air National Guard (ANG) bases in Des Moines and Sioux City were found to have PFAS in soil and groundwater, thought to result from the use of firefighting foam at those bases.

Iowa's PFAS Actions and Regulatory Information

The DNR released Iowa's PFAS Action Plan in January 2020, which lays out a plan to identify and prioritize testing of at-risk public drinking water systems, reduce and prevent future releases of PFAS, and to communicate to the public about PFAS. The DNR is currently implementing this plan. To view Iowa's public water supply testing results, please use the Iowa DNR PFAS Sampling Interactive Dashboard and Map.

The DNR is aware of concerns that private well owners may have regarding PFAS in their water supplies. Currently, monitoring private water supplies is not within Iowa's regulatory jurisdiction. Although the DNR can't regulate testing of private water supplies, it is recommended that private well owners test their water supplies annually or anytime contamination is suspected. PFAS is considered a contaminant at much lower concentrations than most other contaminants.

In 2016, the United States Environmental Protection Agency (EPA) set the Lifetime Health Advisory (HA) for PFOA and PFOS to a combined 70 nanograms per liter (70 ng/L). However, in June 2022, the EPA updated the HA level to 0.004 parts per trillion (0.004 ppt or ng/L) for PFOA and 0.02 parts per trillion (0.02 ppt or ng/L) for PFOS. In addition, HA levels were assigned to GenX chemicals (10ppt or ng/L) and PFBS (2,000 ppt or ng/L).

PFAS Testing for Private Wells

Private well owners may be eligible to receive free PFAS testing through the Grants to Counties (GTC) program by contacting your local county health department. If the county determines funding is not available through GTC, it is recommended that individuals contact Iowa certified laboratories that can test for PFAS using EPA Method 533, the same method used to test public water supplies in Iowa. As of October 13, 2022, those five labs are the State Hygienic Laboratory, Eurofins - South Bend, Eurofins – Lancaster, SGS Accutest, and Pace Analytical.

Ingestion by eating or drinking is the primary route for PFAS to enter the body. If testing reveals that your private well is at or above the HA, it is recommended that you consider using an alternative water source or install a home treatment

system, especially for more sensitive users such as pregnant women, nursing mothers, and infants and children. If you have specific health concerns, consult with your doctor.

Home treatment systems for PFAS can be point-of-source (where water enters the home) or point-of-use (kitchen tap, etc.). The EPA recommends three treatment technologies for removing PFAS from drinking water: granular activated carbon (GAC), anion exchange treatments or resins (AER), and reverse osmosis (RO). Please contact a local water treatment company for up-to-date pricing and information on these treatment systems. Some systems, such as RO, can be purchased at your local hardware store. Please follow the manufacturers instructions and recommendations for system maintenance.

The DNR will continue to review PFAS testing results as Iowa's PFAS Action Plan is implemented. Updates on Iowa's PFAS Action Plan will be posted on DNR's PFAS website.

For more information, please refer to the United State's Environmental Protection Agency's (USEPA) technical information:

- Drinking Water Health Advisories for PFOA and PFOS
- Technical Fact Sheet for PFOA, PFOS, GenX chemicals, and PFBS
- June 2022 HA Levels for PFOA, PFOS, GenX chemicals, and PFBS