

Background on PFAS Contamination

League of Wisconsin Municipalities

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What are PFAS? Per- and polyfluoroalkyl substances (given the acronyms PFOA and PFOS and collectively referred to as PFAS) are a group of man-made chemicals that have properties allowing them to repel both water and oil. PFAS have been manufactured and used in a variety of industries around the globe, including in the United States since the 1940s. Both PFOA and PFOS are very persistent in the environment and in the human body – meaning they don't break down and they can accumulate over time. There is evidence that exposure to PFAS can lead to adverse human health effects. [Source: U.S. Environmental Protection Agency (EPA) <https://www.epa.gov/pfas/basic-information-pfas#tab-1>]

Where can PFAS be found? PFAS can be found in:

Food packaged in PFAS-containing materials, processed with equipment that used PFAS, or grown in PFAS-contaminated soil or water.

Commercial household products, including stain- and water-repellent fabrics, nonstick products (e.g., Teflon), polishes, waxes, paints, cleaning products, and fire-fighting foams (a major source of groundwater contamination at airports and military bases where firefighting training occurs).

Workplace, including production facilities or industries (e.g., chrome plating, electronics manufacturing or oil recovery) that use PFAS.

Drinking water, groundwater and surface water sources for drinking water can become contaminated by local sources often associated with a specific facility, such as a manufacturer, landfill, or firefighter training facility.

Living organisms, including fish, animals and humans, where PFAS have the ability to build up and persist over time.

Certain PFAS chemicals are no longer manufactured in the United States as a result of phase outs. Although PFOA and PFOS are no longer manufactured in the United States, they are still produced internationally and can be imported into the United States in consumer goods such as carpet, leather and apparel, textiles, paper and packaging, coatings, rubber and plastics. [Source: EPA <https://www.epa.gov/pfas/basic-information-pfas#tab-1>]

What are possible health concerns with PFAS? Scientists are still learning about the health effects of exposures to PFAS. If people 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 get exposed to PFAS from different sources over time, the level of PFAS in their bodies may lead to adverse health effects. The likelihood of adverse health effects depends on several factors such as the amount and concentration of PFAS ingested as well as the time span of exposure.

The biggest concerns are for women who are pregnant or likely to become pregnant and children. 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 are current exposure limits for PFAS in drinking water? The EPA has estimated levels of total human exposure to PFOS and PFOA that they believe will not lead to toxicity. EPA has issued guidance to state and local governments and public water providers about levels of PFOA and PFOS in drinking water and groundwater that are potentially concerning. When both PFOA and PFOS are found in drinking water, the combined concentrations of PFOA and PFOS should be compared with the 70 parts per trillion health advisory level. This health advisory level offers a margin of protection for all Americans throughout their life from adverse health effects resulting from exposure to PFOA and PFOS in drinking water. Source: <https://www.epa.gov/ground-water-and-drinking-water/drinking-water-health-advisories-pfoa-and-pfos>