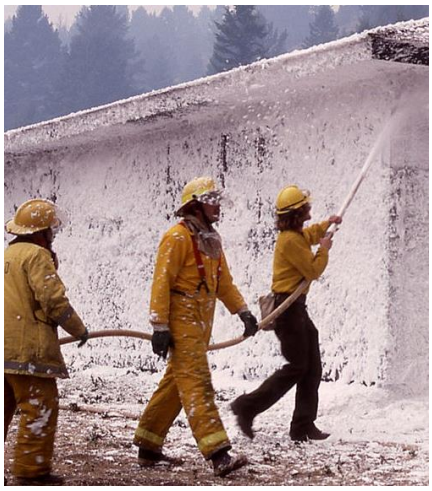
UTAH DEPARTMENT of ENVIRONMENTAL QUALITY

Per- and Polyfluoroalkyl Substances (PFAS)

Per- and polyfluoroalkyl substances (PFAS) are a family of manmade chemicals used in everyday materials to repel oil, water, grease, and stains. Common sources of PFAS include:

- Nonstick cookware, stain-resistant carpets, textiles, and water-repellant clothing
- Grease-resistant food packaging such as microwave popcorn, fast food bags, and pizza boxes
- Some fire-fighting foams
- Industrial processes that manufacture or use PFAS



PFAS can be found in the air, water, and soils. PFAS are very stable and don't break down in the environment and can stay in people's bodies for a long time.

Most people in the United States have one or more PFAS compounds in their blood, generally PFOA (perfluorooctanoic acid) and PFOS (perfluorooctane sulfonic acid). Production of these two compounds has been discontinued, but other forms of PFAS can still be found in consumer products and industrial processes.

Health Impacts

Researchers are working to learn more about the possible relationship between the levels of PFAS in blood and harmful health effects. Studies suggest that high levels of PFAS may:

- Increase cholesterol levels
- Affect the immune system
- Interfere with the body's natural hormones
- Increase the risk of thyroid disease (PFOS) (limited findings)
- Decrease fertility in women

- Increase the risk of serious conditions like high blood pressure or preeclampsia in pregnant women.
- Cancer (PFOA) (limited findings)

Exposure Pathways

The main source of exposure occurs from drinking water or eating food contaminated by PFAS.

A. Drinking Water

Drinking water can be a source of exposure in communities where these chemicals have contaminated water supplies. Such contamination is typically localized and associated with a specific facility.

B. Food

Low levels of PFAS can enter food through:

- Contaminated soil and water
- Food packaging containing PFAS
- Equipment containing PFAS during food processing

C. Consumer Products

PFAS are used in commercially-treated products to make them stain- and water-repellent or nonstick. These include carpets, leather and apparel, textiles, paper and packaging materials, and non-stick cookware.

D. Workplace

Those who work at PFAS production facilities or facilities that manufacture goods made with PFAS may be exposed in certain occupational settings.

- An industrial facility where PFAS were produced or used to manufacture other products
- An oil refinery, airfield or other location at that used certain fire-fighting foams

How to Reduce Exposure to PFAS

- Find alternative or treated water sources if drinking water contains PFAS above the Lifetime Health Advisory or originates near a known source of PFAS contamination.
- Read consumer product labels and avoid using products containing PFAS.
- Check fish advisories for waters with PFAS contamination.

Guidelines and Recommendations

The Environmental Protection Agency (EPA) has set a Lifetime Health Advisory level for drinking water of 70 parts per trillion (ppt) for two types of PFAS compounds — PFOA and PFOS. To date, the EPA has not established maximum contaminant levels (MCLs) for PFAS.

The EPA initiated a PFAS Action Plan in 2019 that outlines steps the agency intends to take to address PFAS contamination:

- Move forward with the Maximum Contaminant Level (MCL) process for PFOA and PFOS.
- Strengthen enforcement authorities and clarifying cleanup strategies by designating PFOA and PFOS as hazardous substances and developing interim groundwater cleanup recommendations.
- Consider the addition of PFAS chemicals to the Toxics Release Inventory and rules to prohibit the uses of certain PFAS chemicals.
- Propose nationwide drinking water monitoring for PFAS under the next UCMR monitoring cycle.
- Expand the scientific foundation for understanding and managing risk from PFAS.