

Perfluoroalkyl and polyfluoroalkyl substances (PFAS)



What you need to know about PFAS Contamination:

Per- and polyfluoroalkyl substances (PFAS) are a group man-made chemicals that includes PFOA, PFOS, GenX, and many other chemicals. PFAS have been manufactured and used in a variety of industries around the globe, including in the United States since the 1940's. PFOA and PFOS have been the most extensively produced and studied of these chemicals. Both chemicals 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. 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**, typically localized and associated with a specific facility (e.g., manufacturer, landfill, wastewater treatment, firefighter training facility).
- **Living organisms**, including fish, animals and humans, where PFAS have the ability to build up and persist over time.

What is the impact to human health:

PFAS are found in a wide range of consumer products that people use daily such as cookware, pizza boxes, stain repellants, firefighting foam. Most people have been exposed to PFAS. They can accumulate and stay in the human body for long periods of time. There is evidence that exposure to PFAS can lead to adverse health outcomes in humans. The most-studied PFAS chemicals are PFOA and PFOS. 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 animals. The most consistent findings are increased cholesterol levels among exposed populations, with more limited findings related to:

- low infant birth weights,
- effects on the immune system,
- cancer (for PFOA), and
- thyroid hormone disruption (for PFOS).

What is Michigan doing about PFAS/PFOS/PFOA:

Governor Snyder and the State of Michigan are taking action to address this issue in a proactive and innovative way. Ten state departments, in coordination with local and federal officials across Michigan, are working together to ensure that the public health and safety of residents is protected while ensuring our environmental heritage is secure for generations of Michiganders to come.

To escalate Michigan's response, Gov. Rick Snyder signed an executive order that establishes the Michigan PFAS Action Response Team (MPART). The directive is designed to ensure a comprehensive, cohesive and timely response to the continued mitigation of PFAS/PFOS/PFOA substances across Michigan.

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What is Michigan doing about PFAS/PFOS/PFOA (Concluded):

The team is tasked with enhancing cooperation and coordination among local, state and federal agencies charged with identifying, communicating and addressing the potential effects of PFAS in Michigan and protecting public health. The team will be led by retired Michigan Chief Deputy Attorney General Carol Isaacs, who has been authorized by the governor to ensure timely action is taken on all environmental, public health and public information fronts.

Resources to learn more:

Centers for Disease Control/National Biomonitoring Program:

https://www.cdc.gov/biomonitoring/PFAS_FactSheet.html

National Center for Environmental Health/Agency for Toxic Substances and Disease Registry:

https://www.atsdr.cdc.gov/pfc/docs/pfas_clinician_fact_sheet_508.pdf

State of Michigan PFAS Response Action Team:

http://www.michigan.gov/som/0,4669,7-192-45414_45929_83470---,00.html

State of Michigan Frequently Asked PFAS Questions:

http://www.michigan.gov/som/0,4669,7-192-45414_45929_83470_83473-452154--,00.html

State of Michigan Sites with Known PFAS Levels:

http://www.michigan.gov/som/0,4669,7-192-45414_45929-452165--,00.html

State of Michigan PFAS in Drinking Water Wells Near the Former Wurtsmith Air Force Base:

https://www.michigan.gov/documents/mdhhs/PFCs_in_Drinking_Water_Wells_532618_7.pdf

The United States Environmental Protection Agency:

<https://www.epa.gov/pfas/basic-information-pfas>

The United States National Library of Medicine/National Institutes of Health:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3214619/>