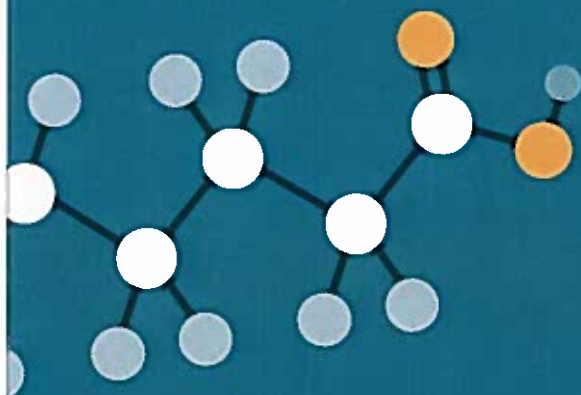


# What DEQ is Doing to Address PFAS



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

## What are PFAS?

Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are a suite of chemicals used in thousands of applications throughout industry. They are incredibly stable, highly soluble, and easily infiltrate soil into groundwater. PFAS are persistent in the environment and some are bioaccumulative in wildlife and humans. Epidemiology studies in humans have found a probable link between exposure to specific PFAS, which includes high cholesterol, pregnancy-induced hypertension, thyroid disease, testicular cancer, and kidney cancer.

PFAS are used in Class B firefighting foams, food packaging, cleaning products, and various other products. The chemicals have been used in the past by many industries such as plating, tanneries, or clothing manufacturers where waterproofing may be required, or a protective film is needed in a manufacturing process. At this point in time, the Michigan Department of Environmental Quality (DEQ) and the U.S. Environmental Protection Agency (USEPA) have identified perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) as the most concerning compounds of the PFAS compound family. Further research is being conducted by the State of Michigan and the USEPA to determine the toxicity and environmental impact of other PFAS related compounds.

## State of Michigan Efforts

The Michigan PFAS Action Response Team is the first multi-agency action team of its kind in the nation. Agencies representing health, environment, and other branches of state government have joined together to investigate sources and locations of PFAS contamination in the state, take action to protect people's drinking water, and keep the public informed as we learn more about this nationally emerging contaminant.

## How is PFAS Regulated?

State groundwater clean-up criteria (protective for drinking water) established under Part 201 has been set at 70 parts per trillion (ppt) for a combination of perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), which are two of the more prevalent compounds within the suite of PFAS.

State surface water standards (including wastewater treatment plant discharge) are regulated under Rule 57.

The State of Michigan will continue to research and investigate PFAS toxicity and environmental impacts as new information becomes available. These limits will be re-evaluated in a multi-agency effort to ensure the safety of human health and the environment.

## What Industries Can Do About It

- 1 Industry is highly encouraged to monitor products for PFAS that serve industry in any of the following purposes: metal and plastic etching, plating, anodizing, and finishing chemicals; water, stain, and oil repellency; surfactants; demisters/defoamers; wetting agents; paper, metal, and wood coatings and paints; adhesives; anti-fogging; plastic production; photography paper, film, and plates; and electronics production.
- 2 Safety Data Sheets (SDS) should be reviewed to identify PFAS containing products and replaced with alternatives. Please note some SDS identify ingredients as "proprietary," "non-hazardous ingredients" or are not disclosed and will need to be researched by contacting the vendor to determine if PFAS are used. Many times, PFAS will be listed as a "surfactant" or as a "fluorosurfactant." Often, PFAS chemicals are at levels of 1-5% and are thus not identified. Industry may therefore need to contact their vendors to determine if products are PFAS-free.
- 3 We highly encourage the replacement of products found to have PFAS in a proactive manner.

## Remediation and Clean-up Efforts

Effective remediation may include granulated active carbon (GAC) filtration, resin filtration or reverse osmosis. Affected residential wells use point-of-use NSF P473 certified GAC filtration and reverse osmosis filters in areas of elevated levels. Further research is being conducted to establish large scale remediation for contaminated aquifers.



## Air Deposition

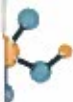
As confirmed in other states, some PFAS can be released into the air and deposited to water bodies through atmospheric deposition. When PFAS has been phased out in applications, there may continue to be releases because these chemicals have been known to stick to ductwork. Because of this, the DEQ Air Quality Division (AQD) is engaged in identifying sources that have historically used, or are currently using, PFAS-containing materials. The AQD is working with regulated sources to encourage and verify material substitutions. The AQD also has established health-based levels for new releases of specific PFAS to air.

## Waste Management and Radiological Protection Information

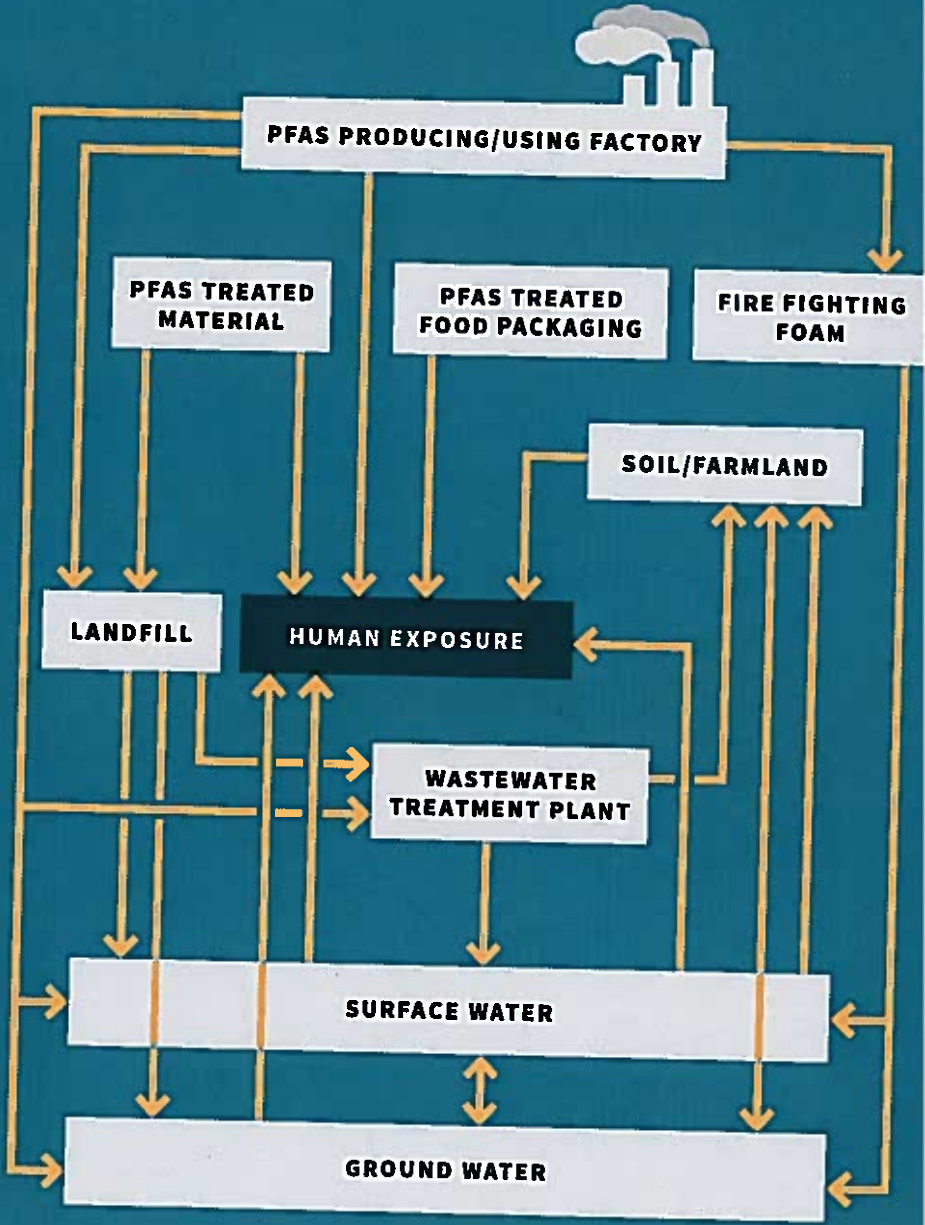
Proper disposal of PFAS-containing material is in development. As methods are developed, industries will be informed through the Michigan Manufacturers Association and other communications from the MDEQ. Current guidance for PFAS containing material is to store on site in secondary containment to prevent spills.

## Surface Water Protection

The Water Resources Division (WRD) is working to protect water quality and public health from PFAS contamination by monitoring select lakes and streams for PFAS based on known data and the presence of likely sources of PFAS, including air force bases, metal finishers, landfills, and other potential sources. The WRD is sampling wastewater treatment plants and industries that discharge directly to surface waters believed to have elevated PFAS concentrations. Elevated PFAS results obtained through these efforts will trigger follow-up actions. For industries that discharge to the sanitary sewer, the WRD will use the requirements of the Industrial Pretreatment Program to identify industrial sources in their collection system. As industrial sources of PFAS are identified, the WRD will work in conjunction with the municipality and the industry to identify PFAS within industrial processes and eliminate them. Potential contamination of industrial storm water runoff with PFAS will also be evaluated for these sources. The WRD is also working with industry and trade associations, to the extent possible, to identify sources and alternatives to products containing PFAS as well as educating stakeholders about PFAS.



# Potential PFAS Exposure Pathways to Humans



Further information regarding PFAS can be found  
online at the following websites:

State of Michigan Efforts, Identified Sites of  
Contamination and Educational Material

[www.michigan.gov/pfasresponse](http://www.michigan.gov/pfasresponse)

EPA Information and Efforts

[www.epa.gov/pfas](http://www.epa.gov/pfas)

*Michigan's Environmental Justice Policy promotes the fair, non-discriminatory treatment and meaningful involvement of Michigan's residents regarding the development, implementation, and enforcement of environmental laws, regulations, and policies by this state. Fair, non-discriminatory treatment intends that no group of people, including racial, ethnic, or low-income populations, will bear a disproportionately greater burden resulting from environmental laws, regulations, policies, and decision-making. Meaningful involvement of residents ensures an appropriate opportunity to participate in decisions about a proposed activity that will affect their environment and/or health.*



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