



Per- and Polyfluoroalkyl Substances (PFAS) in Drinking Water

What are per- and polyfluoroalkyl substances (PFAS)?

PFAS are a large group of manmade chemicals that are fire resistant, and repel oil, stains, grease, and water. They are used in fire-fighting foams, stain repellants, nonstick cookware, waterproof clothing and shoes, fast food wrappers, personal care products, and many other consumer goods. These chemicals are very persistent, meaning they do not break down easily in the environment.

According to the Agency for Toxic Substances and Disease Registry (ATSDR), PFAS are found at low levels in the environment (air, water, soil, etc.). Because these substances are so widely used and because they move in groundwater and surface water, Michigan Department of Health and Human Services (MDHHS) expects to find low levels of PFAS in some drinking water supplies.

What is the Lifetime Health Advisory (LHA) level?

The U.S. Environmental Protection Agency (EPA) has set a Lifetime Health Advisory (LHA) level for two PFAS in drinking water: perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS). The PFOA and PFOS LHA is the level, or amount, below which no harm is expected from these chemicals. The LHA level is 70 parts per trillion (ppt) for PFOA and PFOS combined. The LHA is protective of everyone, especially pregnant women, young children, and the elderly. The EPA has not set health advisory levels for the other PFAS chemicals.

The LHA is **70 ppt** for PFOS and PFOA combined

70 ppt = 70 ng/L

70 ppt = 0.070 µg/L

What does MDHHS consider in making their recommendations on drinking water?

MDHHS advice is based on the best available science. When amounts of PFOA and PFOS in water are higher than the EPA LHA of 70 ppt, MDHHS recommends use of bottled water or a filtration system certified by NSF to reduce PFOS and PFOA for drinking, cooking, making baby formula or food, washing fruits or vegetables, or brushing teeth. It is recommended that the same precautions be taken for pets.

When amounts of PFOA and PFOS are lower than the EPA LHA, MDHHS sometimes recommends using a filtration system certified by the NSF to reduce PFOS and PFOA. This recommendation is made when MDHHS is not confident these chemicals will stay at low levels in a resident's well water.

In areas where PFAS is found, state agencies work to understand the PFAS contamination that is present so that we can make recommendations that protect the health of residents.

Can PFAS harm my health?

No one can say for certain if PFAS will harm your health. Some health studies found health problems linked to PFAS such as:

- Lowering a woman's chance of getting pregnant
- Increasing the chance of high blood pressure in pregnant women
- Increasing the chance of thyroid disease
- Increasing cholesterol levels
- Changing immune response
- Increasing chance of cancer, especially kidney and testicular cancers

Studies in animals help us understand what could happen in people. Animals given high amounts of PFOA and PFOS (types of PFAS), showed:

- Harm to the liver
- Harm to the body's ability to fight off sickness
- Birth defects, slow growth, and newborn deaths

If you have medical questions, talk with your doctor. You may find ATSDR's factsheet, "[Talking to Your Doctor about Exposure to PFAS](#)" helpful. It is available at www.atsdr.cdc.gov/pfas.

What is being done about this issue?

In communities that may have PFAS contamination, the Michigan Department of Environmental Quality (MDEQ) collects water samples to find out where the PFAS is located and if it has entered residents' drinking water wells. MDEQ is also working to proactively test community water supplies, including schools that use their own well. MDHHS works with MDEQ and the local health department to make public health recommendations for residents about their drinking water.

The Michigan PFAS Action Response Team brings together 10 state departments working to provide a coordinated response to PFAS contamination in the state.

The state of Michigan has a website with information about state response to PFAS. Visit www.michigan.gov/pfasresponse.

To learn more about filters used to reduce PFOA and PFOS, see the [PFAS In-Home Filtration Systems factsheet](#) available at www.michigan.gov/pfasresponse.

The Agency for Toxic Substances and Disease Registry, has a website for these chemicals. Visit www.atsdr.cdc.gov/pfas.

MDHHS can help with questions related to public health recommendations. Call MDHHS at [1-800-648-6942](tel:1-800-648-6942).

MDEQ can help with questions about water sampling. Call the MDEQ Environmental Assistance Center at [1-800-662-9278](tel:1-800-662-9278).

