

Comprehensive PFAS Frequently Asked Questions and Answers

PFAS 101

What are Per- and polyfluoroalkyl substances (PFAS) and why are they harmful?

Per- and polyfluoroalkyl substances (PFAS) are a large group manmade chemicals that are resistant to heat, water, and oil. PFAS have been classified by the U.S. Environmental Protection Agency (EPA) as an emerging contaminant on the national landscape. For decades, they have been used in many industrial applications and consumer products such as carpeting, waterproof clothing, upholstery, food paper wrappings, personal care products, fire-fighting foams, and metal plating. They are still used today. PFAS have been found at low levels both in the environment and in blood samples of the general U.S. population.

These chemicals are persistent, which means they do not break down in the environment. They also bioaccumulate, meaning the amount builds up over time in the blood and organs. Studies in animals who were exposed to PFAS found links between the chemicals and increased cholesterol, changes in the body's hormones and immune system, decreased fertility, and increased risk of certain cancers. Studies in which animals were given high levels of PFAS showed effects including low birth weight, delayed puberty onset, elevated cholesterol levels, and reduced immunologic responses to vaccination. Animal studies help scientists understand what could happen in people.

How does PFAS get into drinking water?

PFAS can get into drinking water when products containing them are used or spilled onto the ground or into lakes and rivers. PFAS move easily through the ground, getting into groundwater that is used for some water supplies or for private drinking water wells. When spilled into lakes or rivers used as sources of drinking water, they can get into drinking water supplies. PFAS in the air can also end up in rivers and lakes used for drinking water.

How could I be exposed to PFOA, PFOS and other PFAS compounds?

The main way people are exposed to these chemicals is by swallowing them. PFAS chemicals are sometimes found in drinking water and in cooking or food packaging products. PFAS can be swallowed along with the water or food, from there they can enter the bloodstream.

Touching products made with PFAS or touching water that contains PFAS is not the main way people are exposed to these chemicals. The PFAS chemicals do not easily absorb into the skin.

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 sulfonate (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 individually or combined. The LHA, protective of everyone, especially pregnant women, young children, and the elderly. Currently, the EPA has not set health advisory levels for the other PFAS chemicals.

Health Effects and Recommendations

Are PFAS found in people?

People and animals worldwide have PFAS in their blood. Most people in the United States have one or more PFAS compounds in their blood, most frequently PFOA and PFOS.

The National Health and Nutrition Examination Survey (NHANES) is a program conducted by the U.S. Centers for Disease Control and Prevention to assess the health and nutritional status of adults and children in the United States. Data from previous NHANES surveys show the levels of PFOA and PFOS are decreasing in the blood of the U.S. residents. This is most likely due to major manufacturers of PFOA and PFOS phasing out production of these two chemicals in the last decade, and replacing them with other PFAS chemicals.

New PFAS have been developed and are in use and may be less persistent in the environment. However, more scientific research is needed to determine if these new PFAS could be a health concern.

How can PFAS affect people's health?

Some scientific studies suggest that certain PFAS may affect human health. The National Center for Environmental Health (NCEH)/Agency for Toxic Substances and Disease Registry (ATSDR) is working to better understand how PFAS might affect people's health. Although more research is needed, some studies in people have shown that certain PFAS may:

- affect growth, learning, and behavior of infants and older children
- lower a woman's chance of getting pregnant
- interfere with the body's natural hormones
- increase cholesterol levels
- affect the immune system and
- increase the risk of certain types of cancer

At this time, scientists are still learning about the health issues related to mixtures of PFAS. If you are concerned about PFAS in your drinking water, please contact the MDHHS Toxicology Hotline at 800-648-6942 or the CDC/ATSDR: <https://www.cdc.gov/cdc-info/>.

Is it safe to eat fish in these areas?

Fish are being collected from local lakes and rivers and tested for some of the PFAS chemicals. The fish are analyzed to determine the levels of PFAS in fish and make recommendations on how much is safe to eat. Some information is already available in the State of Michigan Eat Safe Fish guides, which are available at www.michigan.gov/eatsafefish.

Can I bathe or swim in water containing PFAS?

The PFAS chemicals do not easily absorb into the skin. It is safe to bathe, as well as do your laundry and household cleaning. It is also safe to swim in and use water recreationally. Getting water with PFAS on your skin will not harm you.

Should I have my blood tested?

Blood tests are available that can measure the amount of PFAS in blood at the time it is collected. However, the test cannot tell you how much PFAS was in your blood in the past or if the PFAS has or will cause a medical condition.

It's important to know that most people in the United States have measurable amounts of PFAS in their blood, especially PFOA and PFOS. There is no medical treatment to remove PFAS from blood.

If you're thinking about having your blood tested for PFAS, talk to your doctor.

Is there anything I can do to protect my animals?

The Michigan Department of Agriculture and Rural Development recommends you use the same drinking water precautions for pets that you take for yourself. Contact a veterinarian if you suspect that your pet or livestock is experiencing liver, kidney, immune response, or reproductive issues and you suspect that your animal has had PFAS exposure. There may be other causes, apart from PFAS, that may contribute to these health issues. Work with your veterinarian to perform an exam and any necessary tests.

Water Testing and Results

My water has a funny taste. Is it PFAS?

No, PFAS chemicals do not have any taste or color. If your water is from a municipal or community water supply and has an unusual taste or color, contact your water supplier. If you have a private drinking water well and your water has an unusual taste or color, contact your health department.

Who can I call if I have questions about PFAS in my drinking water?

The State of Michigan Environmental Assistance Center can be contacted at 800-662-9278. Representatives may be reached to assist with your questions Monday – Friday, 8:00 AM to 4:30 PM.

Is PFAS a problem even if my home receives municipal water?

There is concern regardless of if you have a private drinking water well or are on a municipal or community water system. Municipal and community water systems are being proactively tested for PFAS chemicals. PFOA and PFOS results will be posted at www.michigan.gov/pfasresponse.

Filters or Alternate Water

What are the different types of filtration systems or filters available to me?

MDHHS recommends filters certified by NSF, International. These filters are certified to reduce the amount of PFOA and PFOS in drinking water. In order to be certified, a water filter must undergo extensive testing and meet strict NSF P473 (<http://bit.ly/2gmEFTI>) requirements set by the American National Standard Institute for drinking water units - health effects. Reverse osmosis systems must also meet all of the requirements in the NSF/ANSI 58 standard (<http://bit.ly/2gmEFTI>). To meet these requirements a filter must be able to reduce PFOA and PFOS below the EPA LHA level. Certified products must be retested periodically and their manufacturing facilities must be inspected every year. To date,

several point-of-use filtrations systems have been certified. No whole house filtration systems have been certified.

How long do the filtration cartridges last and how do I get a replacement?

It depends on the filtrations system you are using. The filtration systems provided by MDHHS last approximately 6 months or 800 gallons of water.

To get replacement filters, contact your local health department (include link to directory of LHDs).

Next Steps

What is being done about this issue?

State and local agencies are actively working to obtain more information about PFAS as quickly as possible. Additional testing is ongoing, which will help us answer more questions and determine next steps.

What is the state doing about this situation and which agencies are involved?

The Governor has formed the Michigan PFAS Action Response Team, comprised of ten state departments, including the Michigan Department of Military and Veterans Affairs (MDMVA), Michigan Department of Environmental Quality (MDEQ) and the Michigan Department of Health and Human Services (MDHHS), to ensure that public health is protected. For more information, visit www.michigan.gov/pfasresponse.