Information Sheet Updated May 2016

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Perfluorinated Chemicals (PFCs)

Horsham, Warrington, and Warminster Townships, Pennsylvania

On May 19, 2016, EPA issued a Lifetime Health Advisory (LHA) level of 70 parts per trillion (ppt) for the combined concentration of perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) in drinking water. Pennsylvania Department of Environmental Protection (DEP) offered water to area residents on an interim basis in conjunction with this announcement. As of Friday, May 20th, DEP confirms that all impacted public water supplies above the new LHA were taken offline and that current supplies meet the new standards. EPA is coordinating directly with private well owners to provide bottled water for those impacted by the new health advisory.

EPA's health advisory levels were calculated to offer a margin of protection against adverse health effects to the most sensitive populations: fetuses during pregnancy and breastfed infants. The health advisory levels are calculated based on the drinking water intake of lactating women, who drink more water than other people and can pass these chemicals along to nursing infants through breast milk.

SITE and CHEMICAL OVERVIEW

PFOS and PFOA: PFOS and PFOA are two human-made chemicals that have been used as surface-active agents in a variety of products, such as firefighting foams, non-stick coatings, and cleaning products. They are two chemicals from among the general class of chemicals called PFCs (perfluorinated chemicals). PFOS and PFOA were detected in Pennsylvania as a result of sampling conducted by public water systems under the 3rd round of EPA's Unregulated Contaminant Monitoring Rule (UCMR or UCMR3) program. The UCMR program provides EPA with scientifically valid data on the occurrence of contaminants in drinking water, which serves as a primary source of occurrence and exposure information that EPA uses to develop regulatory decisions. A drinking water standard, or MCL (Maximum Contaminant Level), does not exist for either PFOS or PFOA; however, in 2009, EPA published a *provisional* Health Advisory Level (PHA or provisional HAL) of 0.4 ug/L (0.4 ppb) for PFOA and 0.2 ug/L (0.2 ppb) for PFOS. As a result of sampling conducted under UCMR3 in Southeastern PA, PFOS and/or PFOA were detected in public water systems located near former military installations where firefighting foams had been used in the past. Where contamination has been found above either the Provisional Health Advisory of 2009 or the Lifetime Health Advisory of 2016, wells have been taken off-line and are not currently supplying water to the public. The purpose of the residential testing is to determine if private wells have been impacted by PFOA and PFOS and if additional actions are needed to protect human health and the environment.

LEAD AGENCIES

The United States Environmental Protection Agency (US EPA) and the United States Navy (Navy) are working in close coordination to protect public health and the environment as it pertains to this issue. Public meetings will be held as follows at the Horsham Township Community Center, 1025 Horsham Road, Horsham, PA 19044.

- Tuesday, May 24, 2016 - 5:00 p.m. - 7:00 p.m. and Wednesday, May 25, 2016 - 11:00 a.m. - 1:00 p.m.

OTHER AGENCIES INVOLVED

Pennsylvania Department of Environmental Protection (DEP)
Pennsylvania Department of Health
Montgomery & Bucks County Health Departments
United States Air Force, Air National Guard
Centers for Disease Control and Prevention (CDC)
Agency for Toxic Substances and Disease Registry (ATSDR)

Horsham Township
Horsham Water and Sewer Authority (HWSA)
Warminster Township
Warminster Municipal Authority

Warrington Township
Warrington Township Water & Sewer Department

DEP PROGRAMS

Hazardous Sites Cleanup Program (HSCA) –

HSCA provides DEP with the funding and authority to conduct cleanup actions at sites where hazardous substances have been released and a responsible party is not known. In the instances of Warrington, Horsham and Warminster PFC contamination, the US Navy and Air National Guard (both under the Department of Defense) have taken responsibility for the contamination. To date, HSCA supplied nearly 300 cases of water to area residents, and will continue to work with the lead agencies on planned remediation.

Safe Drinking Water Program (SDW) –

DEP regulates public water supplies and bottled and bulk water under the Pennsylvania Safe Drinking Water Act; DEP does not regulate private wells. Working in conjunction with EPA, DEP has overseen 19 public wells being taken offline due to exceedances of both the previous provisional health advisory and new lifetime health advisory. Although some operating systems may still have detections of PFOS and/or PFOA, EPA's health advisory level was calculated to offer a margin of protection against adverse health effects to the most sensitive populations. DEP SDW continues to work closely with the below mentioned authorities in addressing these impacted wells.

Water Supply	Wells Taken Offline under 2009 Provisional Health Advisory	Wells Taken Offline under 2016 Lifetime Health Advisory	Total Wells Taken Offline	Number of Wells Still Online
Horsham Water & Sewer Authority	2	3	5	9
Warrington Township Water and Sewer Department	3	2	5	3
Warminster Municipal Authority	3	3	6	11
	8	**8**	**16**	**23**

Clean Water Program (CLW) –

Under DEP's Bureau of Clean Water, the Clean Water Program is responsible for administering the wastewater management program in Pennsylvania. CLW has oversight of the National Pollutant Discharge Elimination System permitting and compliance monitoring. Currently, CLW is monitoring treated wastewater to assess the effectiveness of treatment and to determine what further actions may be required.

For information on Private Well Testing:

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Perfluoroalkyl Substances (PFAS)
Frequently Asked Questions

What are PFAS?

PFAS are a large group of man-made chemicals that have been used since the 1950s. Use of these chemicals has greatly decreased in the United States over the last 10 years. People can still be exposed to PFAS because they are still present in the environment. PFAS do not break down easily in the environment. They also build up and remain in the bodies of exposed humans and animals at levels measured in microgram per liter (ug/l) - this is equivalent to one drop of water diluted into 250 chemical drums. Over the last decade, interest in PFAS has grown.

How can I be exposed to PFAS?

ATSDR and our state health partners are studying exposure to PFAS at a number of sites. PFAS are found near areas where they are manufactured or used. Listed below are places where they can be found.

- Public water systems and drinking water wells, soil, and outdoor air near industrial areas with frequent PFAS use
- Indoor air in spaces that contain carpets, textiles, and other consumer products treated with PFAS to resist stains
- Surface water (lakes, ponds, etc.) and run-off from areas where aqueous (water-based) film-forming fire fighting foam (AFFF) was often used (like military or civilian airfields)
- Locally caught fish from contaminated bodies of water
- Food items sold in the marketplace

Consumer products can be source of exposures to PFAS. These products include

- Some grease-resistant paper, fast food wrappers, microwave popcorn bags, pizza boxes, and candy wrappers
- Nonstick cookware such as Teflon®[1] coated pots and pans
- Stain resistant coatings such as Scotchguard®[1] used on carpets, upholstery, and other fabrics
- Water resistant clothing such as Gore-Tex®[1]
- Cleaning products
- Personal care products (shampoo, dental floss) and cosmetics (nail polish, eye makeup)
- Paints, varnishes, and sealants

Recent efforts to stop using some PFAS in consumer products appear to have lowered exposure in the U.S. population. CDC surveys have shown that blood levels of PFAS have dropped over time. People who work with PFAS are more likely to be exposed than the general population. Workers may be exposed to PFAS by inhaling them, getting them on their skin, and swallowing them, but inhaling them is the most likely route for exposure.

How can I reduce my exposure to PFAS?

PFAS are found in people and animals all over the world. They are found in some food products and in the environment (air, water, soil, etc.). Completely stopping exposure to PFAS is unlikely. But, if you live near sources of PFAS contamination you can take steps to reduce your risk of exposure to PFAS:

- Some states have warnings about eating fish from bodies of water with high PFAS levels. Check with your state public health and environmental quality departments to learn the types and local sources of fish that are safe to eat.
- If your water contains PFAS, you can reduce exposure by using an alternative or treated water source for drinking, food preparation, cooking, brushing teeth, and any activity that might result in ingestion of water.
- It is safe to shower and bathe in PFAS-contaminated water. Neither routine showering or bathing are a significant source of exposure. Studies have shown very limited absorption of PFAS through the skin.

How can PFAS affect people's health?

Scientists are not sure about the health effects of human exposure to PFAS. Some studies in humans have shown that certain PFAS may affect the developing fetus and child, including possible changes in growth, learning, and behavior. In addition, they may decrease fertility and interfere with the body's natural hormones, increase cholesterol, affect the immune system, and even increase cancer risk.

- PFAS build up and stay in the human body and the amount goes down very slowly over time. So scientists and doctors are concerned about their effects on human health.
- Some studies show that animals given PFAS have changes in the liver, thyroid, pancreas, and hormone levels. Scientists are not sure what animal data means about human health. PFAS act differently in humans than they do in animals and may be harmful in different ways.

How can I learn more?

Contact 1-800-CDC-INFO for updated information on this topic.

Contact the Consumer Product Safety Commission at (800) 638-2772 if you have questions about the products you use in your home.

Visit the following websites for more information:

ATSDR Websites

http://www.atsdr.cdc.gov/pfc/index.html

Environmental Protection Agency

http://www2.epa.gov/chemical-research/perfluorinated-chemical-pfc-research

List of Common PFAS and Their Abbreviations

Compound	Abbreviation
Perfluorobutane sulfonate	PFBS
Perfluorohexane sulfonate	PFHxS
Perfluorooctane sulfonate	PFOS
Perfluoroheptanoic acid	PFHpA
Perfluorooctanoic acid	PFOA
Perfluorononanoic acid	PFNA
Perfluorodecanoic acid	PFDA
Perfluoroundecanoic acid	PFUnA
Perfluorododecanoic acid	PFDoA
Perfluorooctane sulfonamide	PFOSA
2-(N-Methyl-perfluorooctane sulfonamido) acetate	Me-PFOSA-AcOH
2-(N-Ethyl-perfluorooctane sulfonamido) acetate	Et-PFOSA-AcOH

Notes

[1]Use of trade names is for identification only and does not imply endorsement by the Centers for Disease Control and Prevention/Agency for Toxic Substances and Disease Registry, the Public Health Service, or the U.S. Department of Health and Human Services