

PERFLUOROALKYLS AND WATER

Perfluoroalkyls (PFAS) are man-made chemicals that have been used in industrial and consumer products worldwide since the 1950s. Research on two kinds of PFAS forms the basis of our scientific understanding about this group of chemicals. Perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) were manufactured for the longest time, are the most widespread in the environment, and are the most well-studied. They have been used in non-stick cookware, water-repellant clothing, stain-resistant fabrics, some cosmetics, some firefighting foams, as well as products that resist grease, water, and oil. While many PFAS have been phased out of use in the US, they are considered “forever chemicals” because they persist in the environment.

For more information: [Illinois EPA website](#)

HEALTH EFFECTS OF PFAS

PFAS can be found globally in the soil, air, and water, as well as in a wide range of consumer goods. PFAS do bioaccumulate which means they can build up over time.

PFAS are a highly researched group of chemicals but the studies do not show a direct causality between PFAS and health effects currently. Some studies have found PFAS associated with increased cholesterol levels, changes in liver enzymes, thyroid disruption, increased risk of kidney or testicular cancer, increased risk of high blood pressure or pre-eclampsia in pregnant women, small decreases in infant birth weights, and decreased vaccine response in children. Scientists are still learning about the health effects of exposures to mixtures of different PFAS.

PFAS GUIDANCE

In 2016, USEPA issued drinking water health advisories for PFOA and PFOS at 70 parts per trillion (ppt). These standards are non-binding, non-regulatory, and meant to provide technical information to state agencies and other public health officials on health effects, analytical methodologies, and treatment technologies associated with drinking water contamination.

In 2021, Illinois EPA has issued statewide health advisories as well as started an ongoing [sampling investigation](#) of PFAS chemicals in community water supplies. As “forever chemicals,” trace amounts of PFAS are often detected in drinking water.

Both the US EPA Lifetime Health Advisory Levels and Illinois EPA Health-Based Guidance Levels are measured in parts per trillion (ppt), where many drinking water compounds are measured in parts per billion (ppb). As a frame of reference, one part per trillion is roughly the equivalent of one drop in 20 Olympic-sized swimming pools.

At this time, no enforceable federal or state drinking water standard, called a Maximum Contaminant Level or MCL, exists for any of the more than 5,000 known PFAS chemicals. Illinois EPA is in the process of collecting data in the PFAS Investigation Network to develop a state MCL. In 2021, The Illinois EPA has established their own [state health advisories](#).

PFAS IN WILMETTE

Wilmette initially tested for PFAS as part of an EPA non-regulatory contaminant study in 2014-2015. Our results from that study were all non-detects in each of the 4 sampling events during a 12-month period.

Wilmette's 2021 Illinois EPA testing results (see table below) determined that one PFAS chemical was detected in the Village's drinking water just above the Illinois EPA Health-Based Guidance Level.

It should be noted that Wilmette's results are well below the USEPA Lifetime Health Advisory level of 70 ppt. Communities along the west shore of Lake Michigan are seeing similar results at about 2 ppt on average.

Date	PFOA IEPA Guidance Level 2 ppt US EPA Guidance 70.0 ppt	PFOS IEPA Guidance Level 14.0 ppt US EPA Guidance 70.0 ppt
12/10/14	ND	ND
3/4/15	ND	ND
6/4/15	ND	ND
9/2/15	ND	ND
7/13/21	2.2	2.6
8/3/21	2.4	2.5

NEXT STEPS

The Village is following guidance from the Illinois EPA and closely monitoring the latest health-based guidance. PFAS levels will be monitored quarterly in accordance with Illinois EPA. Once available, the most recent results will be posted to the Water Management Department website.

In addition, the low levels of PFAS detected in the raw and finished water to evaluate the removal effectiveness of the current treatment process. The Village will continue to ensure information is communicated with residents.

MORE INFORMATION

If you have questions for the Village of Wilmette, please contact Water Management Director Nabil Quafisheh at (847) 853-7531 or quafisheh@wilmette.com. The Water Management Department website will continue to be updated with PFAS information and contains the annual water quality report which has additional information on the Village's water quality

The [US Environmental Protection Agency](#) and the [Illinois Environmental Protection Agency](#) provide information on PFAS and the latest research and regulatory developments. The Village is following the issue closely and will continue adhering to guidance from the Illinois EPA and US EPA.