

FAQs

What are PFAS, PFOA, & PFOS?

Per- and polyfluoroalkyl substances (PFAS), also known as perfluorinated chemicals (PFCs), are a large group of more than 3,000 man-made chemicals that have been used since the 1940s in a wide variety of industrial and commercial applications around the world. PFAS repel water and oil and are resistant to heat and chemical reactions. Thus, they have been used in thousands of products, including in consumer products such as stain-resistant coatings for upholstery and carpets, water-resistant outdoor clothing, paper packaging for food, and non-stick cookware. PFAS have also been used in firefighting foam and a number of industrial processes. PFAS chemicals are very persistent in the environment and in the human body. In other words, they don't break down; instead, they accumulate over time.

Perfluorooctanoic acid (PFOA), the subject of the notices distributed by the Livingston Water Department, is one type of PFAS. Another type of PFAS, which you will see referenced in the fact sheets and other background materials identified below, is Perfluorooctanesulfonic acid (PFOS). PFOA and PFOS have been the most extensively produced of the PFAS chemicals. While consumer products and food are a large source of exposure to PFOA and PFOS for most people, according to the United States Environmental Protection Agency (EPA), they can also enter drinking water through industrial release to water, air or soil. PFOA and PFOS have been identified in bodies of water and in a variety of land and water animals.

For additional information, please refer to the fact sheets on PFOA and PFOS published by the EPA and the NJ Department of Environmental Protection (NJDEP). Copies of these fact sheets and related materials are available at livingstonnj.org/PFOA.

What prompted the notice I received regarding levels of PFOA above NJ drinking water standards?

Previously, PFOA and PFOS were unregulated contaminants, meaning NJDEP did not regulate these substances in drinking water. In 2019, the Livingston Water Department began monitoring for PFOA and PFOS and reporting those results to you in its Annual Water Quality Report. PFOA was detected and reported for 2019 and 2020.

Effective in 2021, New Jersey began regulating PFOA and PFOS in drinking water. NJ is one of the first states to regulate these substances, and the state adopted stringent new standards for them: the maximum contaminant level in New Jersey is now 14 parts per trillion for PFOA and 13 parts per trillion for PFOS, measured at all points of entry to the system -- not at your tap.

The PFOA standards are applied on the basis of a "Running Annual Average" (RAA). The current RAA can be found in the most recent notice published on our website livingstonnj.org/PFOA. All the affected wells are over the NJDEP standard. To help you visualize what these "parts per trillion" measurements mean, one ppt is equivalent to 4/1000ths of a single drop in the average home's total usage of approximately 73,000 gallons per year. Put another way, 1 ppt is equivalent to 1 second out of 32,000 years.

How does PFOA affect people's health?

The human health effects from exposure to low environmental levels of PFOA are unknown. See: https://www.cdc.gov/biomonitoring/PFOA_FactSheet.html. This is an emerging topic of public concern. While more information is continually becoming available, additional research is

needed to better understand exactly how exposure to PFOA can affect human health. Where regulatory standards have been established or advisories issued, the concern is with a lifetime of accumulation, due to the tendency of these materials to accumulate over time. The current health advisories for PFOA in drinking water are focused on ingestion (drinking water or using it in food preparation), not skin contact or other exposures.

In laboratory animals given large amounts, generally at levels well above those of human exposure, PFOA can affect growth and development, reproduction, and injure the liver.

According to the NJDEP, there have been some studies of the general population, communities with drinking water exposures and exposed workers (e.g., in industries that manufacture or use these chemicals) that suggest that PFAS increase the risk of a number of health effects. In these studies, the most consistent human health effect findings for PFOA are increases in serum cholesterol, some liver enzymes and uric acid levels. Please refer to the NJDEP and EPA fact sheets for more information.

Some people may be more vulnerable to contaminants in drinking water than the general population. In the case of PFOA specifically, if you are pregnant, nursing, or providing an infant with formula that requires adding water, regulatory authorities recommend you seek advice regarding PFOA in drinking water from your health care providers.

Please carefully review the regulatory notices from the Township and the fact sheets on PFOA published by the NJ Department of Environmental Protection (NJDEP) and the United States Environmental Protection Agency (US EPA). Copies of these materials are available at livingstonnj.org/PFOA.

How prevalent are PFOA and other PFAS in the environment?

Because these chemicals have been used in an array of consumer products over a long period of time, most people have been exposed to them. Scientists have found PFOA and PFOS in the blood of nearly all the people they tested. According to the NJDEP, four types of PFAS -- including PFOA and PFOS -- have been found in the serum (the clear part of blood) of greater than 98% of the U.S. population. Serum PFAS levels generally reflect exposure that has occurred over several years.

Since 2002, the use of PFOA and PFOS has decreased substantially in the United States. Between 2000 and 2002, PFOS was phased out of production in the U.S. by its primary manufacturer. In 2006, eight major companies agreed to phase out their global production of PFOA- and PFOA-related chemicals, although there are a limited number of permitted ongoing uses. As the use of some PFAS has declined, some blood PFAS levels have gone down as well.

Are other water systems in New Jersey affected? What about bottled water?

New Jersey has had a long industrial history. Thus, unsurprisingly, these chemicals have been detected at varying levels across the state, including in many water systems throughout the state.

With respect to bottled water, you would have to consult the applicable provider. As with any water source, you should review the source's drinking quality reports from the manufacturer as well. You should also consider the personal health and environmental effects of the delivery vessel (the plastic bottle).

What is the source of PFOA in local water?

According to the EPA, PFOA contamination is typically localized and associated with a specific facility, for example an industrial facility where these chemicals were produced or used to manufacture other products. NJ is an industrial state and there may have been businesses in the area that released PFOA into the environment. PFOA likely made its way into the ground and, over time, migrated into one of the wells from which we draw water.

How will the water utility reduce or eliminate this contaminant?

We are committed to ensuring the quality of your water, and we are taking both short- and long-term actions to reduce the concentration of PFOA and bring the affected wells to within the NJ standard. To accomplish this:

- We will expand our existing treatment facilities to filter PFOA, using granulated activated carbon granules and/or ion exchange resins. Both technologies have been approved by the NJDEP for the effective removal of PFOA from water. Our experts have completed a feasibility study for this work and are in the process of refining the design and confirming the timeline and cost. To accommodate the size of the filtration equipment, we need to construct or expand buildings at up to six sites.
 - Our goal is to expedite construction, but the timing is subject to NJDEP and local approvals, including approvals that will be required from other towns where we have facilities. Timing is also subject to the availability of specialized labor and materials, supplies of which are in high demand given the large number of water systems in New Jersey that need to build similar filtration systems in response to the new regulation.
- We are confirming the steps we can take to most effectively reduce concentrations of PFOA before large new treatment facilities are constructed. We have temporarily stopped drawing water from one of the affected wells with higher concentrations of PFOA. We may seasonally close other wells as water demands allow to lower PFOA levels.

I have or am considering installing a residential water treatment system in my home. Will it remove PFOA?

There are many residential (point-of-use) treatment systems with different mechanisms removal criteria. Please consult the manufacturer or installer for information on whether a particular residential water treatment system effectively removes or reduces PFOA (and if so, to what level). Most carbon based systems, such as refrigerator filters, have the capacity to reduce the levels of PFAS compounds. Reverse Osmosis and Filters meeting the National Sanitary Foundation (NSF) Standard 53 can reduce the level of PFAS compounds in water.