

What are PFAS?

Per- and polyfluoroalkyl substances (PFAS) are a group of more than 4,700 human-made chemicals that repel water, oil, grease and stains. PFAS are found in consumer and industrial products such as food wrappers, nonstick cookware, furniture fabrics, carpets, stain repellents, waterproof clothing, and firefighting foams.

Why are regulators concerned about PFAS now?

While PFAS date to the 1940s, only recently have scientists developed technologies to detect minuscule amounts of the chemicals in food and groundwater, down to the level of parts per trillion (ppt).

One ppt is akin to one grain of sand in an Olympic-size swimming pool, or one pinch of salt in ten tons of potato chips.

While it is unclear how, or if, very low concentrations of PFAS may affect human health, PFAS can accrue in the human body over time. And, although testing is available for some PFAS chemicals, testing for many other PFAS remains a work in progress.

Why are regulators concerned about PFAS now?

Because PFAS have been so widely used in consumer and industrial products, most people have already been exposed to them.

Based on research cited by the State Water Resources Control Board, PFAS can enter the body through various routes, including the consumption of contaminated food or liquids (including water), inhalation of PFAS particles, and contact with products treated with PFAS, such as carpets or clothing.

Should I be concerned about Western's water supply?

Providing safe, reliable water to each of its 25,000 residential and business connections in portions of Riverside, Murrieta and Rainbow, is Western

Water's top priority. Most of Western Water's drinking water that goes to our Riverside, Murrieta and Rainbow service areas comes from North California snowmelt, which yields the purest water available. In addition, Western Water can treat locally sourced groundwater at regional desalters. The Arlington and Chino desalters use reverse osmosis, a method proven to remove the most common PFAS, like perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) – from the drinking water.

Western Water's Murrieta service area is supplied with water from North California snowmelt and two groundwater wells. One of the groundwater wells has a single sample that exceeded the notification levels for PFHxS and PFOA. Western Water made all notifications to local governing bodies in compliance with state regulations. Additionally, Western Water is undertaking enhanced monitoring and studies so that the most effective treatment option can be assessed and implemented by the April 2029 compliance deadline.

How do PFAS enter drinking water?

The chemicals do not appear in all drinking water. However, PFAS can enter water if the chemicals spill or leach into the ground, rivers, lakes or wastewater systems—often near industrial sites, military bases, airports or landfills. If the chemicals enter groundwater, they can cross long distances and seep into wells. Testing has found PFAS in a number of drinking water systems in California and nationwide.

How is Western Water addressing concerns about PFAS?

Public health is Western's top priority. Western Water continues to ensure water quality by:

- Monitoring and testing drinking water at over 148 locations within the water system, performing over 41,000 tests to monitor for contaminants and impurities.
- Continuous monitoring of innovation in chemical detection and treatment technology.
- Clear and transparent communication with customers about water quality, treatment and safety.

How is the federal government addressing PFAS in water?

The EPA has implemented a range of regulatory actions to address PFAS substances, including reviewing alternatives for PFAS related chemicals, developing a global stewardship program, proposing a significant new use rule to regulate inactive PFAS, and issuing rules to strengthen regulation on PFAS importation and use. These actions are part of the EPA's efforts to mitigate the risks associated with PFAS and protect human health and the environment.

Additionally, in April 2024, the EPA established federal limits called Maximum Contaminant Levels (MCLs) for some of the PFAS constituents as shown in Table 1. The federal PFAS rule set a 3 year initial monitoring period (April 2027), followed by ongoing monitoring, with all water systems having to be in compliance with the PFAS MCLs in 5 years (April 2029). To be in compliance in April 2029 and thereafter, the average of all samples taken over the course of a year cannot exceed the MCLs shown in Table 1.

Table 1. PFAS constituents with EPA MCLs

Compound	EPA MCL
PFOA	4.0 ppt
PFOS	4.0 ppt
PFHxS	10 ppt
PFNA	10 ppt
HFPO-DA (aka Gen X Chemicals)	10 ppt
Mixtures containing two or more of PFHxS, PFNA, HFPO-DA, and PFBS	1 (unitless) Hazard Index*

**EPA established MCLs for PFAS mixtures containing at least two or more of PFHxS, PFNA, HFPO-DA, and PFBS using a Hazard Index MCL to account for the combined and co-occurring levels of these PFAS in drinking water. For more details about Hazard Index refer to EPA's factsheet at: [pfas-ndpwr-fact-sheet-hazard-index_4.8.24.pdf](https://www.epa.gov/pfas-ndpwr-fact-sheet-hazard-index-4.8.24.pdf)*

How is California addressing PFAS in water?

Based on awareness surrounding new testing technologies, legislators and regulators in California have stepped up oversight of PFAS.

The California Division of Drinking Water (DDW) has issued guidelines for levels of PFAS that must be reported or remediated by water agencies:

- In August 2019, California regulators set the Notification Levels of 5.1 ppt for perfluorooctanoic acid (PFOA) and 6.5 ppt for perfluorooctanesulfonic acid (PFOS), down from 14 ppt and 13 ppt, respectively. This is equivalent to five to seven grains of sand in an Olympic-size swimming pool.
- In 2020, state regulators set new Response Levels at 10 ppt for PFOA and 40 ppt for PFOS. Previously, the Response Level was 70 ppt for the total concentration of the two chemicals combined.
- In 2021, Notification and Response Levels for perfluorobutane sulfonic acid (PFBS) of 500 ppt and 5000 ppt, respectively, were established.
- In 2022, Notification and Response Levels for perfluorohexane sulfonic acid (PFHxS) of 3 ppt and 20 ppt, respectively, were established.

If PFAS levels exceed notification levels water agencies must notify local governing bodies such as city councils or board of supervisors.

Additionally, when response levels are exceeded, water agencies must take the impacted water source out of service or provide public notification.

With the EPA establishing MCLs for PFAS, DDW must now evaluate whether the MCLs are protective of public health based on the uses of drinking water in California. DDW must set state MCLs that are equal to or more restrictive than the MCLs set by the EPA.

How can PFAS be removed from drinking water?

PFAS, can be removed from water through nanofiltration, reverse osmosis, carbon filters or ion exchange resins. As PFAS continues to be studied, additional treatment technologies are being tested.

The Arlington and Chino desalters, where Western Water can often treat and receive local groundwater, use reverse osmosis.

How can PFAS affect public health?

Ongoing research into PFAS has yet to determine if, or how, microscopic levels of the chemicals affect human health. However, the chemicals can build up in the human body over time, and high concentrations of PFAS have been linked to health concerns.

Given the recent advances in chemical detection technology, many areas of PFAS testing and research remain under development. According to the U.S. EPA, “Scientists have found PFOA and PFOS in the blood of nearly all the people they tested, but these studies show that the levels of PFOA and PFOS in blood have been decreasing.”

Who regulates drinking water in California?

The U.S. EPA and the California DDW set benchmarks for drinking water in California.

Where can I get more information on PFAS?

More information on PFAS is available from the U.S. EPA, [epa.gov/pfas](https://www.epa.gov/pfas), the California State Water Resources Control Board, [waterboards.ca.gov/pfas](https://www.waterboards.ca.gov/pfas), or by calling Western Water’s customer care team at 951.571.7104.

WESTERN MUNICIPAL WATER DISTRICT

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