

EPA's Proposal to Limit PFAS in Drinking Water

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We rely on water from the moment we wake up and make a cup of coffee to when we brush our teeth at night. Every person should have access to clean and safe drinking water. That's why the U.S. Environmental Protection Agency (EPA) is taking a key step to protect public health by proposing to establish legally enforceable levels for six PFAS known to occur in drinking water, fulfilling a foundational commitment in the Agency's PFAS Strategic Roadmap. Through this proposed rule, EPA is leveraging the most recent science and building on existing state efforts to limit PFAS and provide a nationwide, health-protective standard for these specific PFAS in drinking water.

What are PFAS chemicals and why are they in our drinking water?

PFAS are a category of manufactured chemicals that have been used in industry and consumer products since the 1940s. PFAS have characteristics that make them useful in a variety of products, including nonstick cookware, waterproof clothing, and firefighting foam, as well as in certain manufacturing processes.

People can be exposed to PFAS in several ways. When their drinking water is contaminated with PFAS, it can be a significant portion of a person's total PFAS exposure. Exposure to PFAS over a long time, and during certain critical life stages, like during pregnancy and in developing babies, may lead to negative health effects.

PFAS can enter the environment from multiple sources, and because they tend to break down very slowly in the environment, PFAS can end up in the water sources that many communities rely on for drinking water. Reducing PFAS in drinking water helps reduce PFAS health risks.

What is EPA doing to make our drinking water safe?

EPA is taking a key step to protect public health by proposing a National Primary Drinking Water Regulation (NPDWR) to establish legally enforceable levels, called Maximum Contaminant Levels (MCLs), for six PFAS known to occur in drinking water. The six PFAS are **PFOA, PFOS, PFNA, PFHxS, PFBS, and GenX Chemicals**.

An MCL protects public health by setting a maximum level of a contaminant allowed in drinking water which can be delivered to users of a public water system. Additionally, EPA is proposing health-based, non-enforceable Maximum Contaminant Level Goals (MCLGs) for these six PFAS. An MCLG is the maximum level of a contaminant in drinking water where there is no known or anticipated negative effect on an individual's health, allowing for a margin of safety.

What levels EPA is proposing and what do water systems have to do?

Specifically, EPA is proposing:

- **An enforceable MCL for PFOA and PFOS.** EPA is proposing to regulate PFOA and PFOS at a level they can be reliably measured, which is 4 parts per trillion (4.0 nanograms/Liter).
- **An enforceable limit on a combination of PFNA, PFHxS, PFBS, and GenX Chemicals.** The proposed rule also would place limits on any mixture containing one or more of PFNA, PFHxS, PFBS, and/or GenX Chemicals. For these PFAS, water systems would use an approach called a hazard index, defined in the proposed rule and described later in this document, to determine if the combined levels of these PFAS

pose a potential risk. This approach protects communities from the additive effects of multiple PFAS when they occur together.

- **Monitoring.** EPA is proposing requirements for monitoring for the six PFAS that build upon EPA's long established monitoring frameworks where monitoring frequency depends on previous results. The proposal also includes flexibilities allowing systems to use some previously collected data to satisfy initial monitoring requirements.
- **Public notification.** Public water systems would be required to notify the public if monitoring detects these PFAS at levels that exceed the proposed regulatory standards.
- **Treatment.** Public water systems would be required take actions to reduce the levels of these PFAS in drinking water if they exceed the proposed regulatory standards. This could include removing these chemicals through various types of treatment or switching to an alternative water supply that meets the standard.

Are testing and treatment technologies available to remove these six PFAS?

Available technologies exist to monitor for and treat these six PFAS. Technologies capable of reducing PFAS in drinking water include granular activated carbon (GAC), anion exchange resins (AIX), reverse osmosis (RO), and nanofiltration (NF).

What does this proposal mean?

If finalized, the proposed regulation will require public water systems to monitor for these chemicals. It will also require systems to notify the public and reduce the levels of these PFAS if levels exceed the proposed regulatory standards. EPA anticipates that over time, if fully implemented, the rule will reduce tens of thousands of PFAS-attributable illnesses or deaths.

This proposal does not require any actions for drinking water systems until the rule is finalized, and water systems will be required to meet the MCLs after a specified implementation time period. EPA anticipates finalizing the rule by the end of 2023.

Public input on the proposal

EPA welcomes public input as part of the regulatory development process. The public is invited to review the proposal and supporting information. Comments can be provided in the public docket associated with this rulemaking at [regulations.gov](https://www.regulations.gov), identified by Docket ID Number: EPA-HQ-OW-2022-0114. Comments must be submitted to the public docket during the 60-day public comment period.

EPA will consider all public comments in informing the development of the final regulation. For more information and instructions on how to submit input to the public docket, visit: www.epa.gov/dockets/commenting-epa-dockets. EPA will also hold a virtual public hearing on May 4, 2023 where the public is invited to provide EPA with verbal comments. For more information on the public hearing and how to provide EPA with verbal and written comments, please visit: www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas.

Is funding available?

Reducing PFAS in drinking water will likely require investments in water infrastructure. Thanks to President Biden's leadership and bipartisan action in Congress, the Bipartisan Infrastructure Law provides an unprecedented \$9 billion to invest in drinking water systems impacted by PFAS and other emerging contaminants. EPA will ensure that states, Tribes, and communities get their fair share of this federal water infrastructure investment—especially in disadvantaged communities. These funds include:

- **\$4 billion** in investment through the **Drinking Water State Revolving Funds**, including a requirement that states dedicate 25% of these resources to disadvantaged communities or public water systems serving fewer than 25,000 people.
- **\$5 billion** to communities as grants through EPA's new **Emerging Contaminants in Small or Disadvantaged Communities (EC-SDC) Grant Program**. This program will promote access to safe and clean water in small, rural, and disadvantaged communities while supporting local economies. In February 2023, EPA announced the availability of the first \$2 billion of this funding.

For more information on Bipartisan Infrastructure Law funding, visit: www.epa.gov/infrastructure.

What if I am concerned about PFAS in my drinking water?

If you get your water from a drinking water system, reach out to your local water utility to learn about how they may be addressing PFAS as well as ask them to test the water for PFAS or to share information with you if they have already tested the water. Some public drinking water systems may not have this information. If you choose to test your water yourself, it is important to use a state-certified laboratory using EPA-developed testing methods. Check with your state's drinking water program to see if they have issued guidance or standards for PFAS in your state and what actions they recommend or require when there is PFAS contamination. If your state does not have standards or guidance for PFAS see EPA's Health Advisory levels for [certain PFAS](#) for EPA's advice regarding these PFAS in drinking water. You may also consider installing in-home water treatment (e.g., filters) that are certified to lower the levels of PFAS in your water. [Learn about certified in-home water treatment filters.](#)

To learn more about PFAS and steps that can be taken to reduce risks: www.epa.gov/pfas/meaningful-and-achievable-steps-you-can-take-reduce-your-risk

What does this proposed regulation mean for households on private wells?

While the Safe Drinking Water Act does not regulate private wells and this proposed rule does not set any requirements or standards for private well owners, EPA understands that people who consume water from private wells may be concerned about contamination of their drinking water by PFAS or other contaminants. EPA has resources to help people who rely on private wells for their drinking water.

First, EPA has information on protecting private wells to prevent contamination, testing private wells and protecting your health at <https://www.epa.gov/privatewells>. (The Centers for Disease Control and Prevention also provides similar information about private water systems at <https://www.cdc.gov/healthywater/drinking/private/index.html>)

Second, if test results from an approved laboratory show levels of PFOA, PFOS, Gen X or PFBS, see EPA's PFAS health advisories [Questions and Answers](#) to learn about actions that you might consider based on your test results.

Third, State Drinking Water State Revolving Loan Fund programs may provide funding to drinking water systems to connect to households served by private wells to their drinking water system, or to form a new drinking water system that would be subject to Safe Drinking Water Act requirements. SRF funds can be used by states to provide household water quality testing for these PFAS where there is an intent to connect with a public water system, or to form a new one, and to provide temporary household or point-of-use filters while a connection to a public water system is established. For more information on these funding programs, please visit www.epa.gov/infrastructure.

My state drinking water standard for PFAS is higher than this proposal, is my water

safe?

This proposal is based on the latest science and if finalized, states will need to establish standards that are as strict as the federal rule. In the interim, EPA currently has Health Advisories in place to act as a guide for states and water systems. EPA's 2022 lifetime health advisory levels represent the concentration of individual PFAS (PFOA, PFOS, GenX Chemicals, and PFBS) in drinking water at below which adverse health effects are not anticipated to occur over a lifetime. It's important to note that many states and utilities are already taking action to reduce PFAS in water, and less PFAS is better over a lifetime of exposure.

If you get your water from a drinking water system, reach out to your local water utility to learn about how they may be addressing PFAS as well as ask them to test the water for PFAS or to share information with you if they have already tested the water. NOTE: Some public drinking water systems may not have this information. If you choose to test your water yourself, it is important to use a state-certified laboratory using EPA-developed testing methods. Check with your state's drinking water program to see if they have issued guidance or standards for PFAS in your state and what actions they recommend or require when there is PFAS contamination. If your state does not have standards or guidance for PFAS see EPA's Health Advisory levels for [certain PFAS](#) for EPA's advice regarding these PFAS in drinking water. You may also consider installing in-home water treatment (e.g., filters) that are certified to lower the levels of PFAS in your water. [Learn about certified in-home water treatment filters.](#)

To learn more about PFAS and steps that can be taken to reduce risks: www.epa.gov/pfas/meaningful-and-achievable-steps-you-can-take-reduce-your-risk

This is a proposed rule for public comment. It does not require any actions for drinking water systems until EPA has a chance to consider public input and the rule is finalized. Once the rule is finalized, water systems will not be required to meet the MCLs until after a specified implementation time period. EPA anticipates finalizing the rule by the end of 2023.

Additional Background

What are MCLGs and MCLs?

MCLGs are non-enforceable public health goals. MCLGs consider only public health, not the limits of detection and treatment technology effectiveness. Therefore, they are sometimes set at levels which water systems cannot meet because of technological limitations. For example, if a contaminant is a known or likely carcinogen, EPA sets the MCLG at 0. MCLGs also consider adverse health risks to sensitive groups, including infants, children, the elderly, and immuno-compromised individuals. Once the MCLG is established, EPA determines the MCL. MCLs are enforceable standards. An MCL is the maximum level of a contaminant allowed in drinking water which can be delivered to users of a public water system. For this rule proposal, EPA evaluated available methods and treatment technologies, that are shown to measure and remove these six PFAS and set the proposed MCLs as close as possible to the MCLGs. EPA also evaluated costs and benefits in determining the proposed MCLs.

What is a Hazard Index?

The Hazard Index is a tool used to evaluate health risks of simultaneous exposure to mixtures of related chemicals. To prevent health risks from mixtures of certain PFAS in drinking water, EPA is proposing that water systems use this Hazard Index approach to regulate PFHxS, GenX Chemicals, PFNA, and PFBS. To determine the Hazard Index for these four PFAS, water systems would monitor and compare the amount of each PFAS in drinking water to its associated Health- Based Water Concentration (HBWC), which is the level at which no health effects are expected for that PFAS.

Water systems would add the comparison values for each PFAS contained within the mixture. If the value is greater

than 1.0, it would be an exceedance of the proposed Hazard Index MCL for these four PFAS. For ease of use, EPA intends to provide water systems with a web-based form that will automatically calculate the Hazard Index. More information on the Hazard Index, including an example of how to calculate it, can be found in the rule proposal at: www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas.

What are PFAS and What are their Health Effects?

There are thousands of different PFAS, and they can be found in many different consumer, commercial, and industrial products. PFAS can enter the environment from multiple sources and because they break down very slowly, concentrations of PFAS can accumulate in people, animals, and the environment over time and can end up in the water sources that many communities rely on for drinking water.

We now know that some PFAS can cause serious health problems if you are exposed to them – even at low levels – over a long period of time. Drinking water is one of several ways people may be exposed to PFAS and reducing PFAS in drinking water helps reduce PFAS health risks. Exposure to the PFAS EPA is proposing to regulate can increase the risks of a range of health effects, including:

- Reproductive effects such as increased high blood pressure in pregnant people
- Developmental effects or delays in children, including low birth weight, bone variations, or behavioral changes
- Increased risk of some cancers, including kidney and testicular cancers
- Reduced ability of the body's immune system to fight infections, including reduced vaccine effectiveness
- Interference with the body's natural hormones, including thyroid hormones
- Increased cholesterol levels
- Liver damage

What Else is EPA Doing to Stop PFAS Pollution and Protect Communities?

EPA released its PFAS Strategic Roadmap in October 2021 and has taken actions to reduce PFAS from entering the water we drink, fish, and swim; hold polluters accountable; and accelerate research that will help EPA and other agencies take future actions. EPA is committed to taking broader actions to help reduce Americans' exposure to PFAS, including:

- Monitoring thousands of drinking water systems across the country for dozens of PFAS;
- Taking final action on a proposal to designate two PFAS as "hazardous substances" to help hold polluters accountable;
- Restricting PFAS discharges to our waterways by strengthening Clean Water Act standards; and
- Finalizing chemical data and safety rules that will increase our knowledge about PFAS, allow us to act faster and more strategically, and restrict legacy PFAS from reentering production.

To learn more about the proposed rule visit:
www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas