FAQ

PFAS National Primary Drinking Water Regulation
FAQs for Drinking Water Primacy Agencies

Overview: What action is EPA taking to address PFAS in drinking water?

Through this National Primary Drinking Water Regulation (NPDWR), the EPA is following the process outlined in the Safe Drinking Water Act for regulating drinking water contaminants, leveraging the best available and 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. This final rule represents the most significant step to protect public health under EPA's PFAS Strategic Roadmap.

Over the last several years, states like Massachusetts, Michigan, New Jersey, Pennsylvania, New York, and many others have been setting limits, working with water systems to conduct monitoring, and helping water systems to take necessary steps to come into compliance with the state regulations. Today, EPA is taking a signature step to protect public health by establishing limits for several PFAS known to occur individually and/or as a mixture in drinking water. This rule sets limits for five individual PFAS: PFOA, PFOS, PFNA, PFHxS, and HFPO-DA (known as "GenX Chemicals"). And the rule sets a limit for mixtures of four PFAS: PFHxS, PFNA, HFPO-DA, and PFBS.

The EPA developed the final rule in accordance with requirements under the Safe Drinking Water Act (SDWA). The EPA evaluated the best available, peer-reviewed science, took into account the feasibility of laboratory analysis and treatment, and considered costs and benefits.

Water systems must comply with monitoring and related reporting and public notification requirements three years after the date the final rule is published (in 2027). Water systems must be in compliance with the Maximum Contaminant Levels (MCLs) five years after the date the final rule is published (in 2029) and provide public notification to consumers if the MCLs are violated. Communities and water systems should continue to follow applicable state requirements, if any, until the PFAS NPDWR requirements are enforceable. States that implement the federal drinking water program are required to have a standard that is no less strict than the NPDWR – as SDWA requires.

What are the final MCLs and MCLGs?

The EPA has set limits for five individual PFAS: PFOA, PFOS, PFNA, PFHxS, and HFPO-DA (GenX Chemicals). And the EPA has set a Hazard Index MCL for mixtures of: PFHxS, PFNA, HFPO-DA, and PFBS.

Chemical	Maximum Contaminant Level Goal (MCLG)	Maximum Contaminant Level (MCL)
PFOA	0	4.0 ppt
PFOS	0	4.0 ppt
PFHxS	10 ppt	10 ppt
HFPO-DA (GenX Chemicals)	10 ppt	10 ppt
PFNA	10 ppt	10 ppt
Mixture of two or more: PFHxS, PFNA, HFPO-DA, and PFBS	Hazard Index of 1 (unitless)	Hazard Index of 1 (unitless)

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health and allows for an adequate margin of safety. MCLGs are non-enforceable public health goals.
Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to MCLGs as feasible using the best available treatment technology and taking cost into consideration. MCLs are enforceable standards.
ppt: parts per trillion
Hazard Index (HI): The Hazard Index is a long-established approach that EPA regularly uses to understand health risk from chemical mixture. The HI is made up of a sum of fractions. Each fraction compares the level of each PFAS measured in the water to the highest level determined not to have risk of health effects.

What funding is available to pay for this rule?

The Infrastructure Investment and Jobs Act provides $9 billion specifically to invest in communities with drinking water impacted by PFAS and other emerging contaminants. This includes $4 billion to the Drinking Water State Revolving Fund (DWSRF) and $5 billion through EPA's Emerging Contaminants in Small or Disadvantaged Communities Grant Program. States and communities can further leverage an additional nearly $12 billion in the DWSRF dedicated to making drinking water safer, and billions more that the federal government has annually provided to fund DWSRF loans. These funds will help communities make important investments in solutions to remove PFAS from drinking water and are a critical foundation on which to build to address this issue across the nation. More information about the Infrastructure Investment and Jobs Act and its emerging contaminant funding can be found at https://www.epa.gov/infrastructure.

As public water systems determine the best way to tackle the investments they may need, the EPA will continue to work with states, Tribes, communities, and other partners to help them make the long-term investments needed to make our nation's drinking water safe from PFAS and will continue to provide assistance accessing funding.

What assistance is available for systems that may need assistance with funding and implementation?

The EPA will ensure that states, Tribes, and localities get their fair share of this federal water infrastructure investment—especially disadvantaged communities through its technical assistance program (www.epa.gov.waterta). The EPA's water technical assistance program is ensuring that disadvantaged communities can access federal funding. The EPA's free Water Technical Assistance (Water TA) supports communities to identify water challenges; develop plans; build technical, managerial and financial capacity; and develop application materials to access water infrastructure funding.

EPA collaborates with state, Tribes, territories, community partners, and other key stakeholders to implement WaterTA efforts and the end result is more communities with applications for federal funding, quality water infrastructure, and reliable water services. Learn more here.

Why did the EPA issue a Hazard Index Maximum Contaminant Level for mixtures of PFHxS, GenX Chemicals, PFNA, and PFBS?

The EPA is following peer-reviewed science that indicates that mixtures of PFAS can pose a health risk greater than each chemical on its own. A Hazard Index helps to account for the increased health risk from mixtures of PFAS that may be found in contaminated drinking water. The Hazard Index is an established approach that the EPA regularly uses to determine the health concerns associated with exposure to chemical mixtures. It is, for

example used at contaminated Superfund sites. A Hazard Index considers how toxic each of the four PFAS are and allows a site-specific determination based on the specific drinking water concentrations measured at a water system.

How is the Hazard Index for PFHxS, GenX Chemicals, PFNA, and PFBS calculated and implemented as a Maximum Contaminant Level?

The EPA's Hazard Index MCL applies to any mixture containing two or more of PFNA, PFHxS, PFBS, and GenX Chemicals. To determine the Hazard Index for these four PFAS, water systems are required to monitor and use those sampling results as inputs into a formula that compares them to their Health-Based Water Concentration (HBWC) (i.e., the level below which no health effects are known or expected for that PFAS and allow for an adequate margin of safety). The final HBWCs for each of the four PFAS are below.

Compound	Health-Based Water Concentration (ppt)
PFHxS	**10**
GenX Chemicals	**10**
PFNA	**10**
PFBS	**2000**

For each of the four PFAS, the calculation first divides the results of the drinking water sample by the HBWC and then adds all the values for each PFAS. If the total value is greater than 1, it would be an exceedance of the final Hazard Index MCL as follows:

$$\text{Hazard Index} = \left(\frac{[\text{GenX}_{\text{water}}]}{[10\text{ ppt}]}\right) + \left(\frac{[\text{PFBS}_{\text{water}}]}{[2000\text{ ppt}]}\right) + \left(\frac{[\text{PFNA}_{\text{water}}]}{[10\text{ ppt}]}\right) + \left(\frac{[\text{PFHxS}_{\text{water}}]}{[10\text{ ppt}]}\right)$$

Where $\text{GenX}_{\text{water}}$ = monitored concentration (ppt) of GenX Chemicals
$\text{PFBS}_{\text{water}}$ = monitored concentration (ppt) of PFBS
$\text{PFNA}_{\text{water}}$= monitored concentration (ppt) of PFNA
$\text{PFHxS}_{\text{water}}$ = monitored concentration (ppt) of PFHxS

For example, if the mixture contains the following levels of these four PFAS, the Hazard Index for that mixture would exceed the final MCL.

$$2\ (2.1\text{ rounded to one significant digit}) = \left(\frac{[5\text{ ppt}]}{[10\text{ ppt}]}\right) + \left(\frac{[200\text{ ppt}]}{[2000\text{ ppt}]}\right) + \left(\frac{[5\text{ ppt}]}{[10\text{ ppt}]}\right) + \left(\frac{[10\text{ ppt}]}{[10\text{ ppt}]}\right)$$

For ease of use, the EPA is developing a technical assistance tool to provide water systems with a web-based form that will automatically calculate the Hazard Index. For detailed information on the Hazard Index calculation visit: https://www.epa.gov/system/files/documents/2024-04/pfas-npdwr_fact-sheet_hazard-index_4.8.24.pdf.

Do all four PFAS under the Hazard Index need to be present for a water system to exceed the Hazard Index NPDWR?

No. The Hazard Index works at the local level and applies to any combination of two or more of the four PFAS. Therefore, in some cases, a water system could exceed the final Hazard Index MCL when only two or three PFAS are present. If only one Hazard Index PFAS is present, regardless of the concentration, it is not an exceedance of the Hazard Index MCL. However, the EPA has also issued individual MCLS for PFHxS, PFNA, or GenX Chemicals that can be exceeded if only one of these three PFAS is present.

Why didn't the EPA include PFOA and PFOS in the Hazard Index NPDWR?

The EPA determined that PFOA and PFOS are likely carcinogens (i.e., cancer causing) and that there is no level of these contaminants that is without a risk of adverse health effects. Therefore, the EPA set the MCLs for these two contaminants at 4.0 parts per trillion, the lowest feasible level that water systems can implement.

Why did EPA issue individual MCLGs and MCLs for PFHxS, PFNA, and GenX Chemicals, in addition to including them as part of the Hazard Index MCLG and MCL?

The EPA finalized individual MCLGs and MCLs for PFHxS, PFNA, and GenX Chemicals at 10 ppt each after considering public comment on the proposed rule. Individual MCLs and MCLGs for PFHxS, PFNA, and GenX Chemicals ensure public health protection when only one of these PFAS is present. In addition to the individual MCLs for PFHxS, PFNA, and GenX Chemicals, the EPA finalized a Hazard Index of 1 (unitless) as the MCLG and MCL for any mixture containing two or more of PFHxS, PFNA, GenX Chemicals, and PFBS to address health concerns related to mixtures of these PFAS when two or more are co-occurring; however, there may be circumstances where one of the PFAS included in the Hazard Index occurs in isolation at a level exceeding health concern. In these circumstances, it will be clearer for water systems and the public to understand that the system has exceeded the MCL for the individual PFAS and not for a mixture of the Hazard Index PFAS as utilities and the public are more familiar with the individual MCL regulatory framework.

Why did EPA include PFBS as part of the Hazard Index MCLG and MCL, but not issue an individual MCLG and MCL for PFBS?

The EPA is deferring the final determination to regulate PFBS individually at this time to further evaluate it under the statutory criteria; consequently, the agency is not promulgating an individual MCLG or NPDWR for PFBS in this action. However, PFBS has a substantial likelihood of frequently co-occurring with PFHxS, PFNA, and/or GenX Chemicals. The EPA has concluded that the health effects of these different PFAS are dose additive, and when PFBS is found in mixtures with other PFAS, it occurs at levels of public health concern. Including PFBS in the final Hazard Index ensures that concentrations of PFBS do not contribute to health concerns related to mixtures of other PFAS regulated by the Hazard Index when two or more are co-occurring.

When are public water systems required to comply with the final PFAS rule?

Within three years of the date of final rule promulgation, community water systems and non-transient, non-community water systems must conduct initial monitoring. Community water systems must include the results of their monitoring for regulated PFAS in their Consumer Confidence Reports (CCRs) starting three years after the date of final rule promulgation.

Three years following final promulgation of the rule, community water systems and non-transient, non-community water systems must start conducting ongoing compliance monitoring and issuing public notification for any monitoring and testing procedure violations.

Community water systems and non-transient, non-community water systems must comply with all regulated PFAS MCLs five years after the date of rule promulgation and must provide public notification for violations of the PFAS MCLs (see Question 17). Because of the additional time required for capital improvements for systems to comply with the PFAS MCLs, the EPA is exercising its authority under the Safe Drinking Water Act section 1412(b)(10) to provide an additional two years for systems nationwide. Public water systems may also seek a general variance or exemption from the state under special conditions to help them to achieve compliance with the PFAS MCLs. Small system variances are not available for the PFAS MCLs as there are affordable small system

compliance technologies for these contaminants.

What are the rule's monitoring requirements?

The final rule requires community water systems and non-transient, non-community water systems to conduct initial monitoring and ongoing compliance monitoring.

Initial Monitoring: The final rule requires that all community water systems and non-transient, non-community water systems complete initial monitoring within three years after the date of the final rule promulgation. The monitoring must be conducted at all entry points to the distribution system. Based on their system size and source water at an entry point to the distribution system, systems must conduct initial monitoring either twice or quarterly during a 12-month period as follows:

- **Surface water systems.** All surface water systems are required to initially monitor quarterly within a 12-month period. Samples are required to be collected 2 to 4 months apart.
- **Groundwater systems serving greater than 10,000 customers.** Initially, these systems are required to monitor quarterly within a 12-month period. Samples are required to be collected 2 to 4 months apart.
- **Groundwater systems serving 10,000 or fewer customers.** EPA is requiring that these systems initially only monitor twice within a 12-month period, with each sample collected 5 to 7 months apart.

In order to reduce costs for systems, primacy agencies can allow systems to use previously collected monitoring data to satisfy some or all of the initial monitoring requirements, if the sampling was conducted using EPA Methods 533 or 537.1 as part of UCMR 5 or other state-level or other appropriate monitoring campaigns. The EPA is aware of many state and federal monitoring programs whose data would potentially satisfy some or all of the initial monitoring requirements.

Ongoing Compliance Monitoring: Three years following the date of rule promulgation, community water systems and non-transient, non-community water systems are required to begin quarterly compliance monitoring at all entry points. Based on initial monitoring, primacy agencies have the authority to reduce compliance monitoring frequency at a systems' applicable entry points to once every three years (for all sizes of systems and water source types) if initial monitoring results are below rule trigger levels for all regulated PFAS.

The trigger levels are used for establishing appropriate monitoring frequency. For certain regulated PFAS, they are set at a defined threshold that shows if these PFAS are present or absent. The trigger levels are set at one-half of the MCLs for regulated PFAS (i.e., 2.0 ppt for PFOA and PFOS, 5 ppt for PFHxS, PFNA, and GenX Chemicals) and one-half of the Hazard Index MCL (0.5 unitless) for mixtures of PFHxS, GenX Chemicals, PFNA, and/or PFBS. Systems with multiple entry points to the distribution system may establish different compliance monitoring schedules for each entry point depending on their monitoring results.

Based on later compliance sampling results, a system that monitors triennially at an entry point and finds sample results for any regulated PFAS at or above the rule trigger levels would need to revert to quarterly monitoring. Additionally, if compliance sample results are at or above the MCLs for any regulated PFAS, the water system must initiate quarterly monitoring at the entry point. For water systems conducting quarterly compliance monitoring that have four consecutive quarterly sample results below the MCLs, primacy agencies have the authority to determine an entry point is reliably and consistently below the MCLs and allow the water system to conduct annual monitoring at the sample location. If the water system can then demonstrate three consecutive annual samples are below the rule trigger levels for all regulated PFAS, the water system can further reduce to monitoring every three years at the entry point.

Reduced monitoring will reduce burden on water systems that demonstrate through sampling that they are at lower risk of PFAS contamination. For more information, please see: https://www.epa.gov/system/files/documents/2024-04/pfas-npdwr_fact-sheet_monitoring_4.8.24_0.pdf.

What are the public notification requirements for PFAS under this rule?

The final rule requires community water systems and non-transient, non-community water systems to provide notification of an MCL violation as soon as practicable but no later than 30 days after the system learns of the violation. The notices would alert consumers of the violation and if there is a risk to public health. These public water systems are required to provide this notification, if applicable, starting five years after the date of rule promulgation (2029) when the MCLs are enforceable.

Additionally, monitoring and testing procedure violations require public notification, or notice no later than one year after the system learns of the violation. Systems are also required to repeat the notice annually for as long as the violation persists. Beginning three years from the date of rule promulgation (2027), water systems are required to provide this notification for monitoring and testing procedure violations.

What are Consumer Confidence Reports (CCR) requirements of the rule?

Community water systems must prepare and deliver to its customers a CCR, also known as an Annual Water Quality Report, which provides information about their local drinking water quality as well as information regarding the water system compliance with drinking water regulations. The final rule requires community water systems to report detections of PFOA, PFOS, PFHxS, GenX Chemicals, and PFNA, and mixtures containing two or more of PFHxS, GenX Chemicals, PFNA, and PFBS.

Since systems must complete initial monitoring within three years of rule promulgation, systems will be required to report results and other required information in CCRs beginning with 2027 reports. As the MCL compliance date is set at five years following rule promulgation, systems will be required to report MCL violations in the CCR, accompanied by the required health effects language and information about violations, starting in 2029.

What is the Practical Quantitation Level (PQL)?

The PQLs are set at specific concentrations that laboratories nationwide can measure with high certainty. These levels provide the precision and accuracy that the EPA estimates can be achieved during routine laboratory operating conditions and are the most appropriate levels for use in determining the lowest feasible level that can be implemented. For MCL compliance determination purposes, if a laboratory provides a sample result less than the PQL, the system should use zero for that sample result to calculate the running annual average used to determine compliance. The EPA has finalized the following PQLs for the six PFAS addressed in this regulation.

Compound	Practical Quantitation Level (ppt)
PFOS	**4.0**
PFOA	**4.0**
PFHxS	**3.0**
GenX Chemicals	**5.0**
PFNA	**4.0**
PFBS	**3.0**

Why is the EPA setting a reduced-monitoring trigger level below the PQL for PFOA and PFOS?

The reduced-monitoring trigger levels for PFOA and PFOS are set at a defined threshold that shows if these PFAS are present or absent in a sample and used for establishing appropriate monitoring frequency. The PQLs which are used to inform the MCL compliance determination are set at specific concentrations that laboratories nationwide can measure with high certainty and thus are a basis for the MCLs for PFOA and PFOS.

How can a system comply with the PFOA and PFOS MCLs when they are set at their PQLs?

Compliance is determined based on analytical results at each sampling point. For systems monitoring quarterly, compliance is determined by running annual averages at the sampling point and, for compliance determination purposes only, a sample result less than the PQL for the monitored PFAS will use zero to calculate the running annual average. If a system is required to take more than one compliance sample during each quarter at a particular location, the system must average all samples taken at that location during that quarter. A system would not be considered in violation of an MCL unless or until it has completed one year of quarterly sampling (except, for example, where a sample would be high enough to cause the annual average to exceed an MCL).

For example, if the results of sampling for PFOA at a compliance location for the most recent four quarters are 2.0, 3.0, 5.0, and 2.0 ppt, noting that one of these sample results is above the PQL for PFOA (4.0 ppt), the values used to calculate the running annual average would be 0.0, 0.0, 5.0, and 0.0. In this case, the PFOA running annual average would be 1.3 ppt and the system would be in compliance.

Can systems utilize composite samples?

The EPA is not allowing composite samples. Composite sampling is an approach in which equal volumes of water from multiple entry points are combined into a single container and analyzed as a mixture. The reported concentration from the analysis of the composite samples therefore reflects the average of the concentrations from the entry points. This can potentially reduce analytical costs because the required analysis is reduced by combining samples into one. However, because PFAS are in the environment at low concentrations and precision is critical, incidental contamination from combining of results could result in false positives.

Can primacy agencies grant monitoring waivers?

No, based on consultation with state regulators and small public water systems, the EPA believes that the ubiquity and environmental persistence of PFAS makes granting waivers challenging and is therefore not allowing them in the final rule.

Does the EPA have any guidance or requirements for treatment and destruction or disposal of water treatment residuals such as spent activated carbon and anion exchange media that contain PFAS?

At this time, the EPA does not have any regulatory requirements for the treatment, destruction, and disposal of water treatment residuals that contain only PFAS. A facility that has spent carbon or other media from treating PFAS and/or other contaminants must determine whether the material is a regulated waste based on the contaminants present. PFAS alone are not considered hazardous waste (under federal statutes).

Concurrent with this final drinking water rule, the EPA published an updated version of "Interim Guidance on the Destruction and Disposal of Perfluoroalkyl and Polyfluoroalkyl Substances and Materials Containing Perfluoroalkyl and Polyfluoroalkyl Substances" that describes the options of landfilling, injection and thermal treatment for disposing PFAS laden materials. This guidance recommends materials containing PFAS should be managed to minimize potential releases to the environment and protect human health and provides information that water systems can consider when deciding how to dispose of residuals.
For more information, please see: https://www.epa.gov/pfas/interim-guidance-destroying-and-disposing-certain-pfas-and-pfas-containing-materials-are-not.

What is the timeline and process for state primacy?

Primacy agencies must have regulations for contaminants regulated under National Primary Drinking Water Regulations (NPDWRs) that are no less stringent than the regulations promulgated by the EPA. States will have up to two years to develop regulations after the date of rule promulgation to apply for approval of their revised programs adopting PFAS requirements. The EPA will provide guidance to support states, territories, and Tribes in obtaining primacy for the PFAS NPDWR. More information on primacy responsibilities under the Safe Drinking Water Act can be found at: https://www.epa.gov/dwreginfo/primacy-enforcement-responsibility-public-water-systems

What is the difference between this drinking water regulation for PFOA, PFOS, PFHxS, GenX Chemicals, PFNA, and PFBS and the 2022 EPA Health Advisories for PFOA, PFOS, PFBS, and GenX Chemicals?

The final regulation includes MCLs which are legally enforceable regulatory drinking water standards. The EPA establishes MCLs as close as feasible to the health based, non-enforceable MCLG, taking into consideration the ability to measure and treat to remove a contaminant, as well as the costs and benefits.

Drinking water health advisories are developed under a separate authority and are different from MCLs and MCLGs. Each serves a different purpose. Health advisories are informational, not regulatory and not legally enforceable. Health advisories reflect EPA's assessment of health risks of a contaminant based on the best available science and provide advice and information on actions that water systems may take to address contamination for these and other PFAS.

For more information on the health advisories, please visit https://www.epa.gov/sdwa/drinking-water-health-advisories-pfoa-and-pfos.