

Final PFAS National Primary Drinking Water Regulation

“

Every American deserves to be able to turn on their water tap or faucet and be able to drink clean water.

- **Joe Biden**, President of the United States

Overview

“ PFAS pollution in drinking water has plagued communities across this country for too long. Today, I am proud to finalize this critical piece of that Roadmap, and in doing so, save thousands of lives and help ensure our children grow up healthier.

- EPA Administrator **Michael Regan**

Key Messages

- PFAS exposure over a long period of time can cause cancer and other illnesses that decrease quality of life or result in death
- PFAS exposure during critical life stages such as pregnancy or early childhood can also result in adverse health impacts
- PFAS pollution can have disproportionate impacts on small, disadvantaged, and rural communities already facing environmental contamination.
- As the lead federal agency responsible to protect drinking water, EPA is using the best available science on PFAS to set national standards.

Key Messages

- The Biden-Harris Administration has finalized the first-ever national drinking water standard for per- and polyfluoroalkyl substances (PFAS)
- EPA is issuing this rule after reviewing extensive research and science on how PFAS affects public health, while engaging with the water sector and with state regulators to ensure effective implementation.
- EPA also considered 120,000 comments on the proposed rule from a wide variety of stakeholders.
- The final rule will reduce PFAS exposure for approximately 100 million people, prevent thousands of deaths, and reduce tens of thousands of serious illnesses.

Summary of Final Rule

“

EPA is taking a signature step to protect public health by establishing legally enforceable levels for several PFAS known to occur individually and as a mixture in drinking water.

- **Jennifer McLain**, Director
Office of Ground Water and Drinking Water

Regulatory Levels: Maximum Contaminant Level Goals

- EPA is taking a signature step to protect public health by establishing legally enforceable levels for several PFAS known to occur individually and as mixtures in drinking water
- For PFOA and PFOS, EPA is setting a non-enforceable health-based goal of **zero**. This is called a Maximum Contaminant Level Goal (MCLG).
 - This reflects the latest science showing that there is no level of exposure to these two PFAS without risk of health impacts.
- For PFNA, PFHxS, and HFPO-DA (GenX Chemicals), EPA is setting MCLGs of **10 parts per trillion**.

Regulatory Levels: Maximum Contaminant Levels

- EPA is setting enforceable Maximum Contaminant Levels (MCLs) at **4.0 parts per trillion** for PFOA and PFOS, individually.
 - This standard will reduce exposure from these PFAS in our drinking water to the lowest levels that are feasible for effective implementation.
- For PFNA, PFHxS, and HFPO-DA (GenX Chemicals), EPA is setting MCLs of **10 parts per trillion**.

Regulatory Levels: Hazard Index (see fact sheet for details)

- EPA is also regulating, through a hazard index (HI), mixtures of four PFAS—**PFHxS**, **PFNA**, **HFPO-DA**, and **PFBS**.
- Decades of research show some chemicals, including some PFAS, can combine in mixtures and have additive health effects, even if the individual chemicals are each present at lower levels.
- PFAS can often be found together and in varying combinations as mixtures.

Regulatory Levels: Hazard Index

- The Hazard Index is a long-established approach that the EPA regularly uses, for example in the Superfund program, to determine the health concerns associated with exposure to chemical mixtures.
- The Hazard Index is calculated by adding the ratio of the water sample concentration to a Health-Based Water Concentration.

$$HI\ MCL = \left(\frac{[HFPO-DA_{water}]}{[10\ ppt]} \right) + \left(\frac{[PFBS_{water}]}{[2000\ ppt]} \right) + \left(\frac{[PFNA_{water}]}{[10\ ppt]} \right) + \left(\frac{[PFHxS_{water}]}{[10\ ppt]} \right) = 1$$

- Details are provided in EPA's Hazard Index Fact Sheet

Regulatory Levels: Summary

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	Hazard Index of 1

*Compliance is determined by running annual averages at the sampling point

Costs and Benefits

“ On a personal level, every life saved and every life that’s improved as a result of this rule is priceless.

- **Bruno Pigott**, EPA Acting Assistant Administrator for Water

Costs and Benefits

- By reducing exposure to PFAS, this final rule will:
 - Save **thousands of lives**.
 - Prevent **tens of thousands of serious illnesses**, including cancers, liver disease, heart attacks, and strokes.
 - Reduce immune impacts and developmental impacts to pregnant people, children and babies.
- The benefits are quantified by considering the costs of illness such as lost wages, medical bills, and the value of every life lost.
- The quantifiable health benefits of this rule are estimated to be **\$1.5 billion** annually.
- There are also many other substantial health impacts that will be avoided which EPA does not have data to quantify.

Costs and Benefits

- EPA estimates that between about 6% and 10% of the 66,000 public drinking water systems subject to this rule may have to take action to reduce PFAS to meet these new standards.
- Compliance with this rule is estimated to cost approximately \$1.5 billion annually.
- These costs include water system monitoring, communicating with customers, and if necessary, obtaining new or additional sources of water or installing and maintaining treatment technologies to reduce levels of the six PFAS in drinking water.
- EPA considered all available information and analyses for costs and benefits, quantifiable and non-quantifiable, of this rule and determined that the **benefits justify the costs**.

Costs and Benefits (see fact sheet for details)

	How Much?	What From?	The Potential Impact
Costs	\$1.5 Billion per year	Monitoring, communicating with customers, and if necessary, obtaining new or additional sources of water or installing and maintaining treatment technologies.	States, Tribes, and territories with primacy will have increased oversight and administrative costs.
	Non-quantified*	Costs for some systems to comply with the Hazard Index, HFPO-DA, and PFNA MCLs.	66,000 regulated water systems will have to conduct monitoring and notifications. 4,100 – 6,700 water systems may have to take action to reduce levels of PFAS.
Benefits	\$1.5 Billion per year	The rule results in fewer cancers, lower incidence of heart attacks and strokes, and fewer birth weight-related deaths. Actions taken to implement the rule may also lead to associated health benefits from reductions in other PFAS and unregulated disinfection byproducts.	83 – 105 million people will have improved drinking water as a result of lower levels of PFAS
	Non-quantified*	Benefits will prevent over 9,600 deaths and reduce approximately 30,000 serious illnesses. Increased ability to fight disease, reductions in thyroid disease and impacts to human hormone systems, reductions in liver disease, and reductions in negative reproductive effects such as decreased fertility.	

***Non-quantified benefits and costs are those that EPA could not assign a specific number to as part of its national level quantified analysis, but it doesn't mean their benefits or costs are less important than those with numerical values.**

Implementation

“ Our responsibility through the Safe Drinking Water Act is to protect people’s drinking water, and we are taking action to reduce the threat of PFAS contamination.

- **Eric Burneson**, Director
Standards and Risk Management Division
Office of Ground Water and Drinking Water

Implementation

Under the rule requirements, public water systems must:

- Conduct initial and ongoing compliance monitoring for the regulated PFAS
- Implement solutions to reduce regulated PFAS in their drinking water if levels exceed the MCLs
- Inform the public of the levels of regulated PFAS measured in their drinking water and if an MCL is exceeded

Implementation: Timeframes for Water Systems

Within **three years** of rule promulgation (2024 – 2027):

- Initial monitoring must be complete

Starting **three years** following rule promulgation (2027 – 2029):

- Results of initial monitoring must be included in Consumer Confidence Reports (i.e., Annual Water Quality Report)
- Regular monitoring for compliance must begin, and results of compliance monitoring must be included in Consumer Confidence Reports
- Public notification for monitoring and testing violations

Starting **five years** following rule promulgation (starting 2029)

- Comply with all MCLs
- Public notification for MCL violations

Implementation

- EPA's final rule protects public health while allowing for maximum flexibility, cost savings, and burden reduction for public water systems. Flexibilities include:
 - Reductions in required initial monitoring for most small water systems
 - Using previously collected drinking water data to satisfy the rule's initial monitoring requirements (e.g., UCMR)
 - Reduced compliance monitoring based on sampling results
 - Additional time to comply with the PFAS MCLs, allowing systems time to plan, design, and find the best solutions for their communities

Implementation

- EPA's final rule does not dictate how water systems remove these contaminants. The rule is flexible, allowing systems to determine the best solutions for their community.
- Drinking water utilities can choose from multiple proven treatment options.
- Water treatment technologies exist to remove PFAS chemicals from drinking water, including granular activated carbon, reverse osmosis, and ion exchange systems.
- In some cases, systems can close contaminated wells or obtain new uncontaminated source of drinking water.

What changed from the Proposed Rule?

Examples of changes to the final rule based on comments:

- Compliance deadline for MCLs increased to 5 years instead of 3 years for systems to plan, fund, and construct capital improvements.
- Set individual MCLGs/MCLs for PFHxS, PFNA, and HFPO-DA (GenX chemicals) in addition to the mixture HI MCLG/MCL for PFHxS, PFNA, HFPO-DA, and PFBS.
- Final HI MCL requires presence of two or more PFAS versus one or more.
- Additional flexibility to reduce ongoing monitoring from quarterly to annual or triennial based on results.

Funding & Technical Assistance

“ We know that PFAS pollution can have a disproportionate impact on small, disadvantaged, and rural communities, and there is federal funding available specifically for these water systems.

- **Yu-Ting Guilaran**, Deputy Director,
Office of Ground Water and Drinking Water

PFAS Funding and Technical Assistance

- PFAS contamination can have a disproportionate impact on small, disadvantaged, and rural communities, and there is federal funding available specifically for these water systems.
- The Bipartisan Infrastructure Law (BIL) dedicates \$9 billion specifically to invest in communities with drinking water impacted by PFAS and other emerging contaminants. \$1B of these funds can be used to help private well owners.
- An additional \$12 billion in BIL funding is available for general drinking water improvements.

For more: <https://www.epa.gov/water-infrastructure>

PFAS Funding and Technical Assistance

- EPA collaborates with state, Tribes, territories, community partners, and other key stakeholders to implement Water Technical Assistance (WaterTA) efforts and the end result is more communities with applications for federal funding, quality water infrastructure, and reliable water services.
- EPA's water technical assistance program is ensuring that disadvantaged communities can access federal funding.
- EPA's free WaterTA supports communities to identify water challenges, develop plans, build technical, managerial and financial capacity, and develop application materials to access water infrastructure funding.

For more: <https://www.epa.gov/water-infrastructure/water-technical-assistance-programs>

Resources

“ EPA is working to help protect communities from PFAS contamination.

- **Ryan Albert, Branch Chief**
Risk Reduction Branch, Office of Ground Water and Drinking Water

Resources

Materials

- Webinar Presentation and Recording
- General Q&As
- PFAS NDPWR Fact Sheet
- Fact Sheet: Water Filters
- Fact Sheet: What are the Benefits and Costs of the Rule?
- Fact Sheet: Understanding the Hazard Index
- Fact Sheet: Small Drinking Water Systems
- Fact Sheet: PFAS Drinking Water Treatment Technologies
- Fact Sheet PFAS NPDWR Monitoring Requirements
- Detailed Q&As for states and water systems

Materials available on <https://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas>

PFAS Strategic Roadmap

“ The Biden-Harris Administration is committed to utilizing science and holding polluters accountable to address and prevent PFAS contamination.

- **White House Fact Sheet:** Biden-Harris Administration Takes New Action to Protect Communities from PFAS Pollution.

EPA's Commitment to Address PFAS Contamination

- The Agency released its PFAS Strategic Roadmap in October 2021 and established the agency's three overarching goals:
 - Restricting PFAS from entering the environment in the first place.
 - Remediating—or cleaning up—PFAS contamination where it is found.
 - Researching PFAS to strategically address public health and environmental risks.
- Since 2021, the agency has taken many actions to strengthen public health protections and address PFAS in the environment.
- The agency's final PFAS drinking water regulation is a cornerstone of this holistic approach.

EPA's PFAS NPDWR website:
<https://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas>

**For questions regarding the PFAS NPDWR, please
send to PFASNPDWR@epa.gov**