

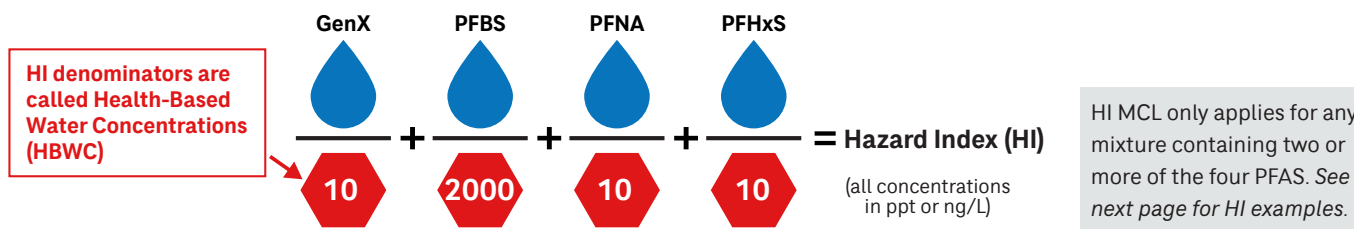
EPA's Final Regulations: What Do You Need To Know?

On April 10th, 2024, EPA announced the final National Drinking Water Standards for six PFAS (PFOS, PFOA, PFNA, PFBS, PFHxS, and GenX).

Numerical levels for compliance

PFAS	MCL (ng/L or ppt*)	Significant Figure Requirement	Rounding for Reporting Example
PFOA	4.0	2	Running annual average value (RAA) of 4.04 ng/L = round to 4.0 ng/L = Compliance
PFOS	4.0		RAA of 4.05 ng/L = round to 4.1 ng/L = Exceedance
PFNA	10	1	RAA of 14.9 ng/L = round to 10 ng/L = Compliance
PFHxS	10		RAA of 15.0 ng/L = round to 20 ng/L = Exceedance
GenX	10		
PFNA, PFHxS, GenX, and PFBS (Mixture)	HI Value of 1 (Unitless)	1	RAA of 1.49 = round to 1 = Compliance RAA of 1.50 = round to 2 = Exceedance

*Maximum Contaminant Level (nanograms per liter or parts per trillion)



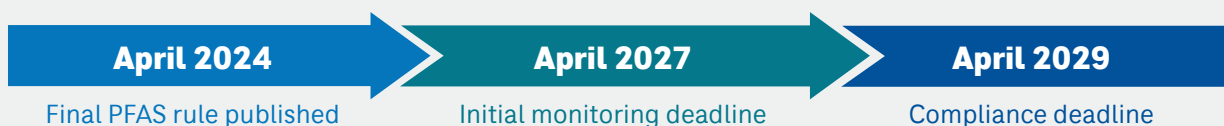
Why did EPA develop these regulations?

- PFOA and PFOS: kidney and liver cancer risks - (MCL Goal or MCLG = 0 ng/L)
 - 4 ng/L is the practical quantitation level (PQL) where the lowest PFOA/PFOS can be reliably measured.
- PFNA (decreased body weight gain and developmental effects, MCLG = 10 ng/L), PFHxS (thyroid effects), PFBS (thyroid effects) & GenX (liver effects, MCLG = 10 ng/L) - (MCLG for a mixture of 4 compounds = 1, unitless)
- PFBS is included in the HI MCL without finalization of its individual regulatory determination because of 1) dose-additive adverse effects when present in a mixture, 2) substantial likelihood of its co-occurrence, and 3) meaningful opportunity for health risk reduction by regulating mixture combinations.

Treatment

- Best Available Technology (BAT):
 - Granular activated carbon (GAC), anion exchange (AIX), nanofiltration (NF), and reverse osmosis (RO)
- Point of use (POU) or point of entry (POE) systems not listed as compliance options because the MCLs are below the currently available NSF/ANSI certification standards for these treatment systems

Compliance Deadline Extended



Monitoring

Initial Monitoring:

- Entry point to the distribution system samples by EPA Method 533 or 537.1 Version 2.0
- Large groundwater systems serving >10,000 people and surface water systems to complete quarterly monitoring over 12-months (2-4 months apart).
- Small groundwater systems serving <10,000 people to complete monitoring twice over 12-months (5-7 months apart).
- Must be completed within 3 years of the final rule
- Previous monitoring results may be used
 - UCMR 5 or other data collected using EPA Methods 533 or 537.1 Version 2.0 after 1/1/2023
 - Data collected between 1/1/2019-12/31/2022 can be used if they are below the MCLs

Compliance Monitoring:

- Quarterly monitoring, unless approved for reduced monitoring
- Compliance based on a **running annual average (RAA)**.
- Results <PQL will be summed as zero
 - Example 1: PFOA results of **2.0, 1.5, 5.0 and 1.5 ng/L (results below PQL)**
 - RAA = $(0.0 + 0.0 + 5.0 + 0.0) / 4 = 1.3 \text{ ng/L}$ for **2** significant figures
 - Example 2: GenX (HFPO-DA) of **3.2, 6.1, 5.5 and 2.7 ng/L**
 - RAA = $(0.0 + 6.1 + 5.5 + 0.0) / 4 = 2.9$ but **3 ng/L** for **1** significant figure
- If more than one sample taken per quarter, all samples are used in the RAA.

Contaminant	PQL
PFOA	4.0 ng/L
PFOS	4.0 ng/L
PFNA	4.0 ng/L
PFHxS	3.0 ng/L
GenX	5.0 ng/L
PFBS	3.0 ng/L

Reduced Monitoring:

Triennial Sampling:

- If all samples **during initial monitoring** are below trigger levels, 1 sample per 3-year compliance period
- To be collected during the quarter with the highest prior concentration identified in the most recent year
- A single sample exceeding the trigger levels requires quarterly sampling and is required to be used for 1st quarter result of RAA calculation

Contaminant	Trigger Level
PFOA	2.0 ng/L
PFOS	2.0 ng/L
PFNA	5 ng/L
PFHxS	5 ng/L
GenX	5 ng/L
Hazard Index	0.5 (unitless)

Annual Sampling:

- Determining the system is below the trigger level and reliably and consistently below the MCL requires 4 consecutive quarterly samples **during compliance monitoring**
- To be collected during the quarter with the highest prior concentration identified in the most recent year
- After 3 years with results below the trigger levels, the state may allow triennial monitoring
- A single sample exceeding the MCL requires quarterly sampling and is required to be used for 1st quarter result of RAA calculation

HI Calculation Example

- HI MCL is violated if RAA HI exceeds the MCL AND two or more HI analytes are detected above the PQLs
 - Example: 9 ng/L of PFHxS, 8 ng/L of PFBS and 9 ng/L for PFNA and ND for GenX

