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# PFAS: A Rundown of Regulations and an Analysis of EPA's PFAS Roadmap

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**Federal regulatory development highlights**



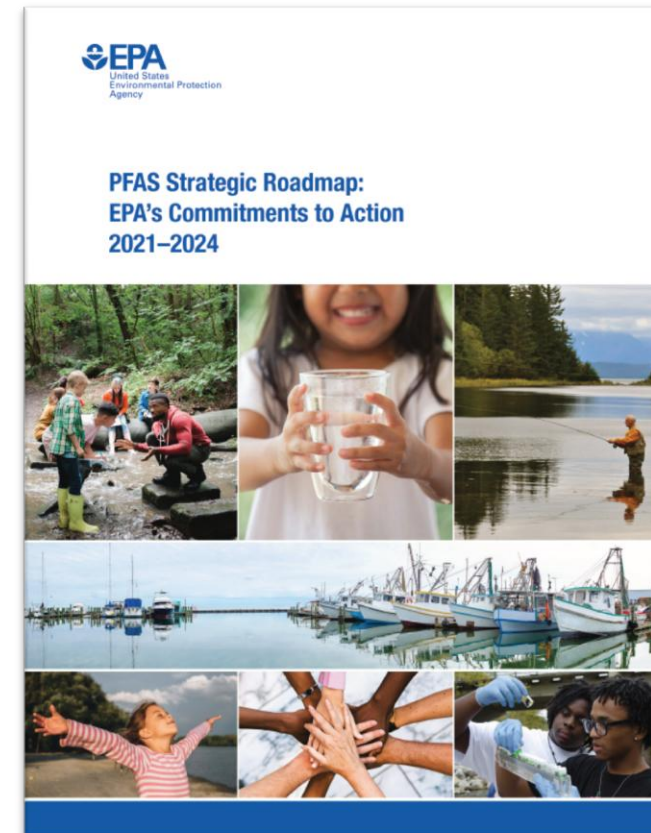
**Notable/nearby state actions**



**Other Areas to Watch**

# EPA PFAS Strategic Roadmap

- Released October 18, 2021
  - PFAS lifecycle
  - Prevent from entering environment
  - Hold polluters accountable
  - Science-based decision-making
  - Protect disadvantaged communities
- Multi-media focus
- Public engagement





# 2022 PFAS Accomplishments

- “Year of Progress” Report released November 2022
- Critical actions:
  - Proposed rule designating PFOS/PFOA “hazardous substances” under CERCLA
  - Issued drinking water health advisories for PFOA, PFOS, GenX, and PFBS
  - Issued first test order under National PFAS Testing Strategy
  - Distributed billions under Bipartisan Infrastructure Law
- Another key action in December 2022 – TRI de minimis proposed rule

# 2023 YTD Regulatory Actions



## Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

- ANPRM – Designate seven additional PFAS (PFBAS, PFHxS, PFNSA, GenX, PFBA, PFHxA, PFDA) as CERCLA “hazardous substances” (April 13, 2023; extended comments to August 11, 2023)
- Reviewing comments received on NPRM designating PFOS/PFOA CERCLA “hazardous substances”

# 2023 YTD Regulatory Actions



## Resource Conservation and Recovery Act (RCRA)

- Two rules currently under inter-agency review; have not been formally proposed:
  - White House OMB reviewing proposed rule to list PFOA, PFOS, PFBS, and GenX as RCRA “hazardous constituents”
  - White House OMB reviewing proposed rule clarifying RCRA corrective action authority

# 2023 YTD Regulatory Actions



## Toxic Substances Control Act (TSCA)

- Proposed Significant New Use Rule (SNUR) – prevent resuming use of “inactive” PFAS without prior EPA review (January 2023)
- Proposed rule overhauling TSCA framework to prevent PFAS from qualifying for special low-volume and low-exposure exemptions (May 2023)
- New TSCA Section 5 framework for new PFAS and new uses of PFAS (as “PBT” chemicals)

# 2023 YTD Regulatory Actions



## Clean Water Act (CWA)

- Final Effluent Limitations Guidelines Plan 15 (January 2023)
  - But no specific proposal yet for certain industrial category PFAS ELGs (organic chemicals, plastics & synthetic fibers; metal finishing and electroplating; landfills; etc)
  - Electrical and Electronic Components category out for now



# PFAS regulatory developments - federal



## Clean Water Act (CWA)

- EPA Memo to address PFAS in EPA-Issued NPDES Permits (April 28, 2022)
- Draft Aquatic Life Water Quality Criteria for PFOA and PFOS (May 3, 2022)
- EPA Memo to States to address PFAS in NPDES permits (December 5, 2022)

# Draft Aquatic Life Criteria – PFOA and PFOS

Criteria Component	Acute Water Column (CMC) <sup>1</sup>	Chronic Water Column (CCC) <sup>2</sup>	Invertebrate Whole-Body	Fish Whole-Body	Fish Muscle
<b>PFOA Magnitude</b>	49 mg/L	0.094 mg/L	1.11 mg/kg ww	6.10 mg/kg ww	0.125 mg/kg ww
<b>PFOS Magnitude</b>	3.0 mg/L	0.0084 mg/L	0.937 mg/kg ww	6.75 mg/kg ww	2.91 mg/kg ww
<b>Duration</b>	1-hour average	4-day average	Instantaneous <sup>3</sup>		
<b>Frequency</b>	Not to be exceeded more than once in three years, on average	Not to be exceeded more than once in three years, on average	Not to be exceeded more than once in ten years, on average		

<sup>1</sup> Criterion Maximum Concentration.

<sup>2</sup> Criterion Continuous Concentration.

<sup>3</sup> Tissue data provide instantaneous point measurements that reflect integrative accumulation of PFOA or PFOS over time and space in aquatic life population(s) at a given site.

# PFAS regulatory developments - federal



## 2022 Safe Drinking Water Act (SDWA) – Health Advisories

- Non-binding, but influence MCL development
- PFOA – 0.004 ppt
- PFOS – 0.02 ppt
- PFBS – 10 ppt
- GenX – 2,000 ppt

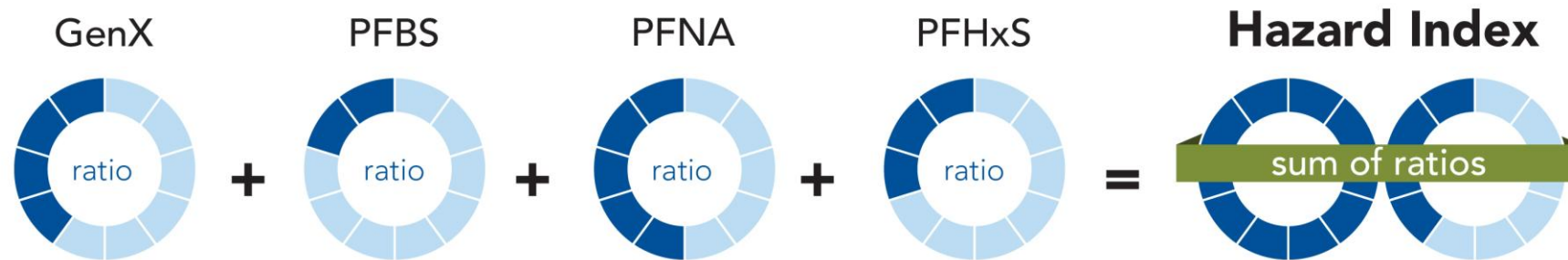
# PFAS regulatory developments - federal



## March 2023 SDWA – Maximum Contaminant Levels (MCLs)

PFAS	MCLG	MCL
PFOA	0	4 ppt
PFOS	0	4 ppt
GenX	<b>Hazard Index (HI) = 1.0</b> <i>(unitless)</i>	
PFNA		
PFHxS		
PFBS		

# MCLs – Hazard Index and some implications



$$\text{Hazard Index} = \left( \frac{[\text{GenX}_{\text{water}}]}{[10 \text{ ppt}]} \right) + \left( \frac{[\text{PFBS}_{\text{water}}]}{[2000 \text{ ppt}]} \right) + \left( \frac{[\text{PFNA}_{\text{water}}]}{[10 \text{ ppt}]} \right) + \left( \frac{[\text{PFHxS}_{\text{water}}]}{[9.0 \text{ ppt}]} \right)$$

- MCLs are regulatory limits for treated water at Public Water systems – community and non-transient non-community
- Could impact NPDES effluent limits. Some state rules automatically adopt MCLs as Water Quality Criteria where there is a drinking water use – ex: MN, ND, UT
- Will at least inform development of health-based water quality criteria in other states
- Remediation targets

# PFAS regulatory developments - federal



## SDWA - Final Regulatory Determination

- Fifth Unregulated Contaminant Monitoring Rule (UCMR5, December 2021)
- Announced Contaminant Candidate List 5 (CCL5) on October 28, 2022
- Added PFAS as group/class - 16 compounds added to list

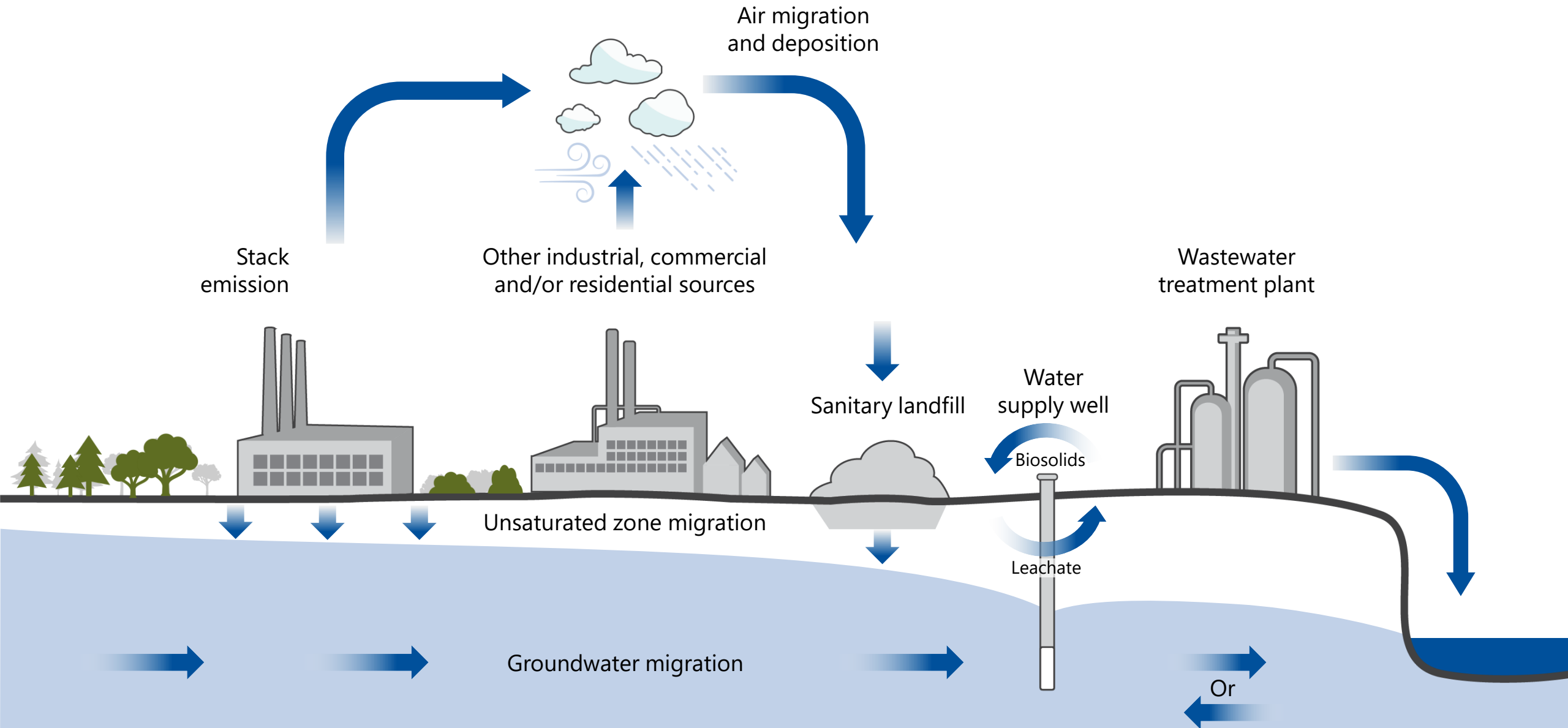
# PFAS regulatory developments - federal



## Testing Methods

- Draft Method 1633 – all matrices except potable water
- Potable water – existing Method 533 or 537.1
  - Methods are being used for non-potable water samples
- Accreditation (method) of labs vary
- Turnaround times: 3 - 21 weeks

# PFAS air emissions





# PFAS regulatory developments - state



## Toxic Release Inventory (TRI)

- December 5, 2022 Proposed Rule
  - De minimis threshold removal

# PFAS regulatory developments - federal



## Actions to Continue to Monitor in 2023 and Beyond

- CERCLA PFAS Hazardous Substance Rule
- RCRA – two possible draft rules
- UCMR5 – Monitoring under this rule 2023-2025
- SDWA MCLs/MCLGs
- Risk Assessment on PFOA/PFOS in Biosolids (2024)
- Clean Water Act
  - Aquatic Life Water Quality Criteria
  - Effluent Limit Guidelines for Industrial Categories (ELGs)

# Notable/nearby state actions



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# PFAS developments – Missouri

- MDNR formed PFAS Stakeholder Workgroup in 2022, with recommendations end of 2023
- Voluntary Monitoring program for NPDES permit holders ongoing
- Permit language proposed for NPDES permits for AFFF use and other BMPs
- MDNR posted public drinking water monitoring data in a geospatial database on website



**Missouri**

# PFAS developments – Kansas and Nebraska

- KDHE conducted an investigation - Bureau of Environmental Remediation and Bureau of Water
  - Included statewide inventory and prioritization of potential PFAS sources
  - Information used to continue to inform monitoring programs
- NDEE and KDHE have been coordinating on PFAS investigations of impacted military and Superfund sites

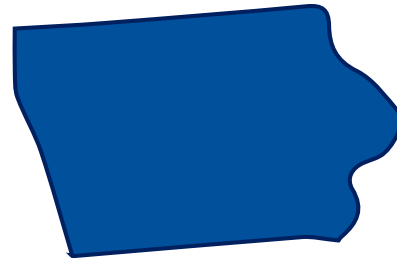


**Nebraska**

**Kansas**

# PFAS developments – Iowa

- Implemented the Iowa PFAS Action Plan in 2020 for Public Drinking Water
  - Included a sampling plan and response protocol
- Interactive sample results map available on website – compares results to Health Advisory levels



Iowa

# PFAS air emissions regulatory developments - state

- Inclusion in air permits
- Targeted testing and monitoring – numerous states



**North Carolina**



**New Hampshire**



**Minnesota**

# Recent Minnesota actions – PFAS Monitoring Plan

- >100 named facilities
- Air, Wastewater, Waste Management, Stormwater, Remediation
- Implementation 2022-2023 and beyond



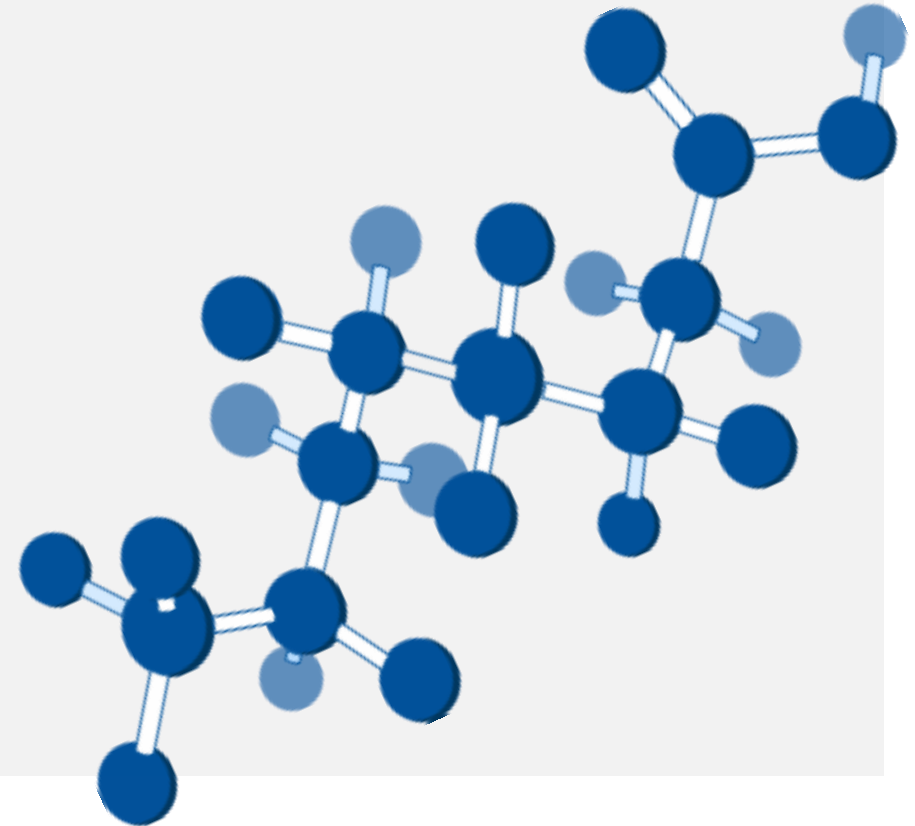
**Minnesota**



# Other Areas to Watch

- State enforcement – some states taking actions
- Federal enforcement
  - EPA lists PFAS on National Enforcement and Compliance Initiatives (2024-2027) for first time
  - Recent CWA PFAS enforcement
    - More NPDES permits to include PFAS?
      - EPA expanded resources for states – discharge limit examples, monitoring requirements, and BMPs
- Congressional action
  - New PFAS legislation?
  - CERCLA liability carve-outs?

- **Active** regulatory climate for regulation of PFAS
- **Continuing growth** in sampling and analytical methods
- Important to **track** regulatory growth for your region and industry



# Thank you

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