

Environmental
Compliance
Navigator

2024TM

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Nashville | September 9-10

PFASten Your Seatbelt

Environmental
Compliance
Navigator 2024™

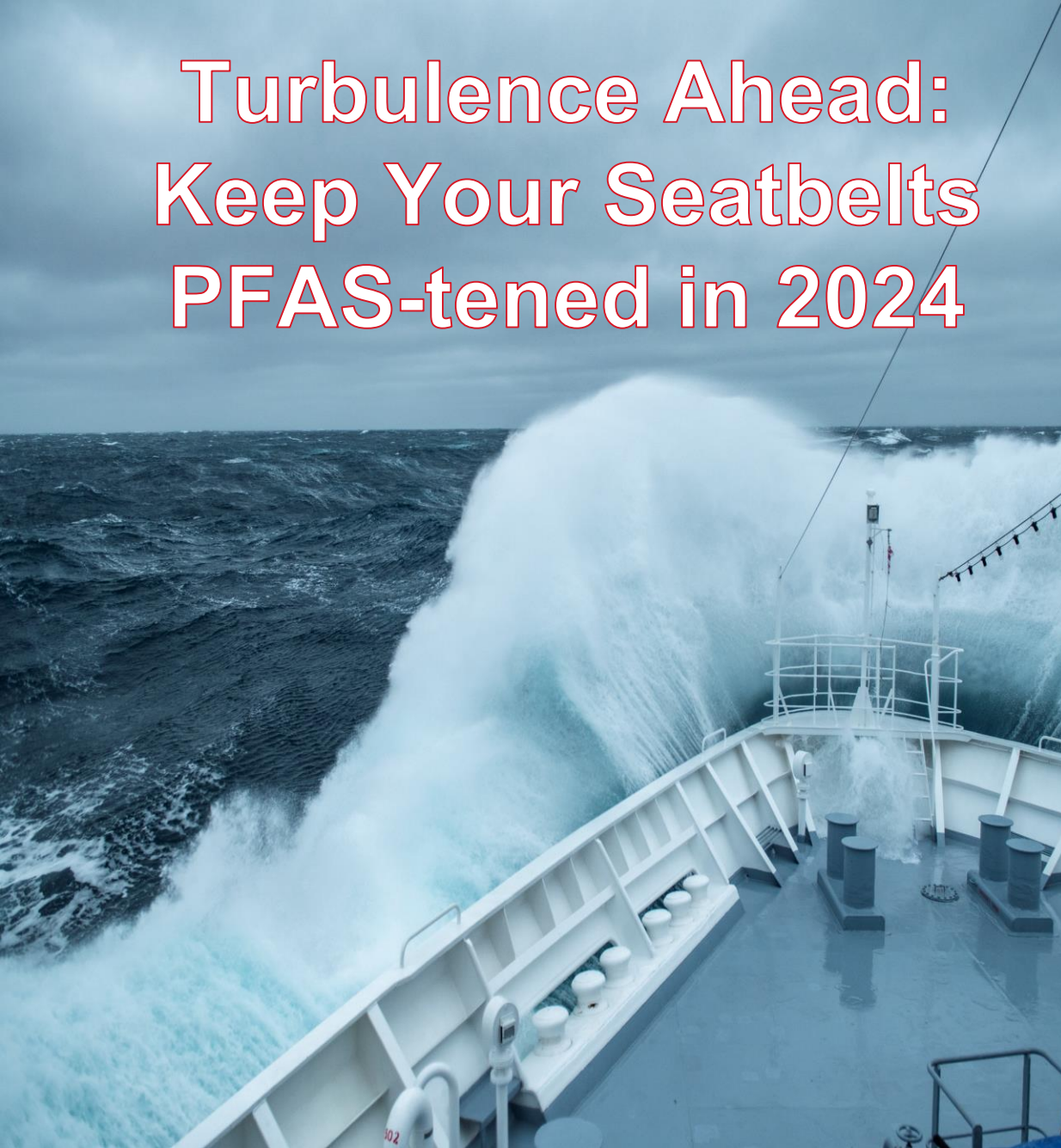


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September 9, 2024

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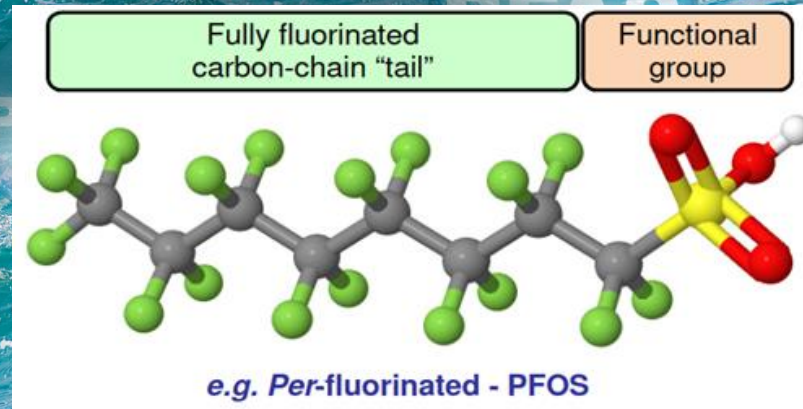
Turbulence Ahead: Keep Your Seatbelts PFAS-tened in 2024



- PFAS 101: “Forever Chemicals” are NOT ALL THE SAME
- Federal Actions
- PFAS Site Investigation and Remediation
- Litigation Lightning Round
- Best Practices

PFAS

PFAS

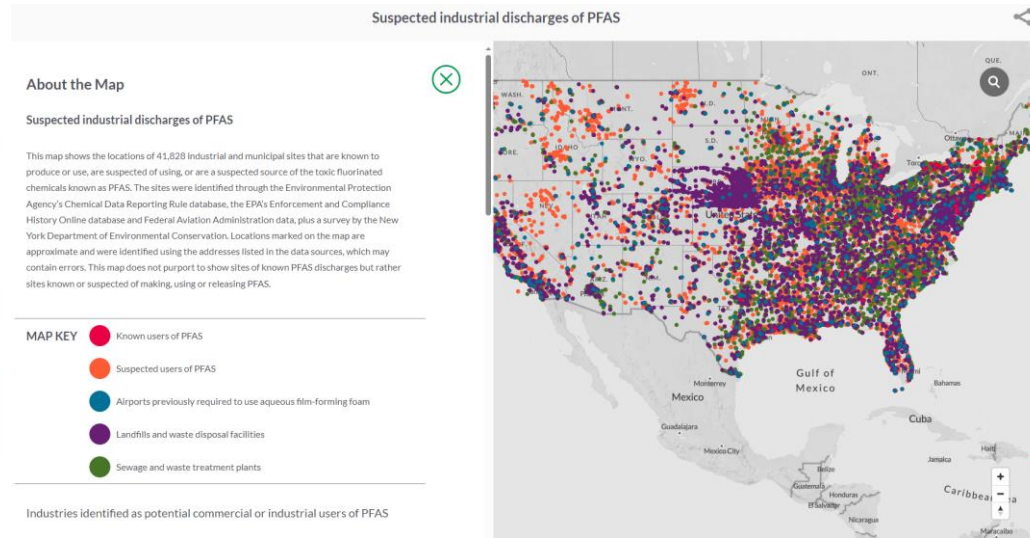


PFAS 101

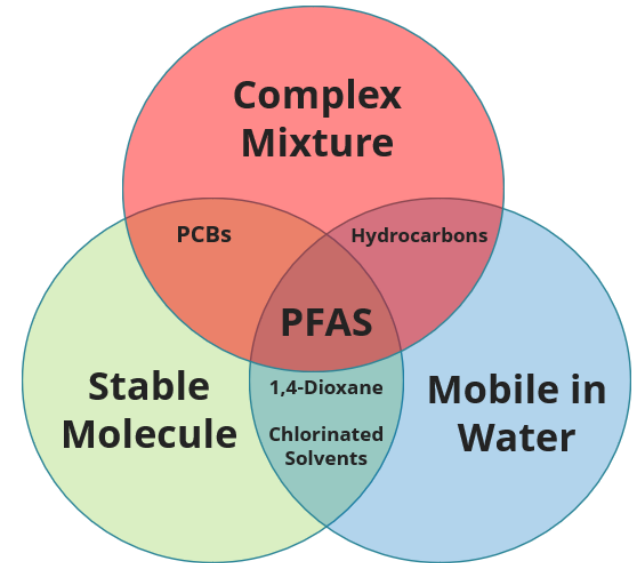
PFAS Are UBIQUITOUS™

Alarming levels of PFAS in Norwegian Arctic ice pose new risk to wildlife

Oxford University-led study detects 26 types of PFAS compounds in ice around Svalbard, threatening downstream ecosystems



Source: https://www.ewg.org/interactive-maps/2021_suspected_industrial_discharges_of_pfas/map/



From: Groundwater and PFAS - NGWA

PFAS in Modern Society

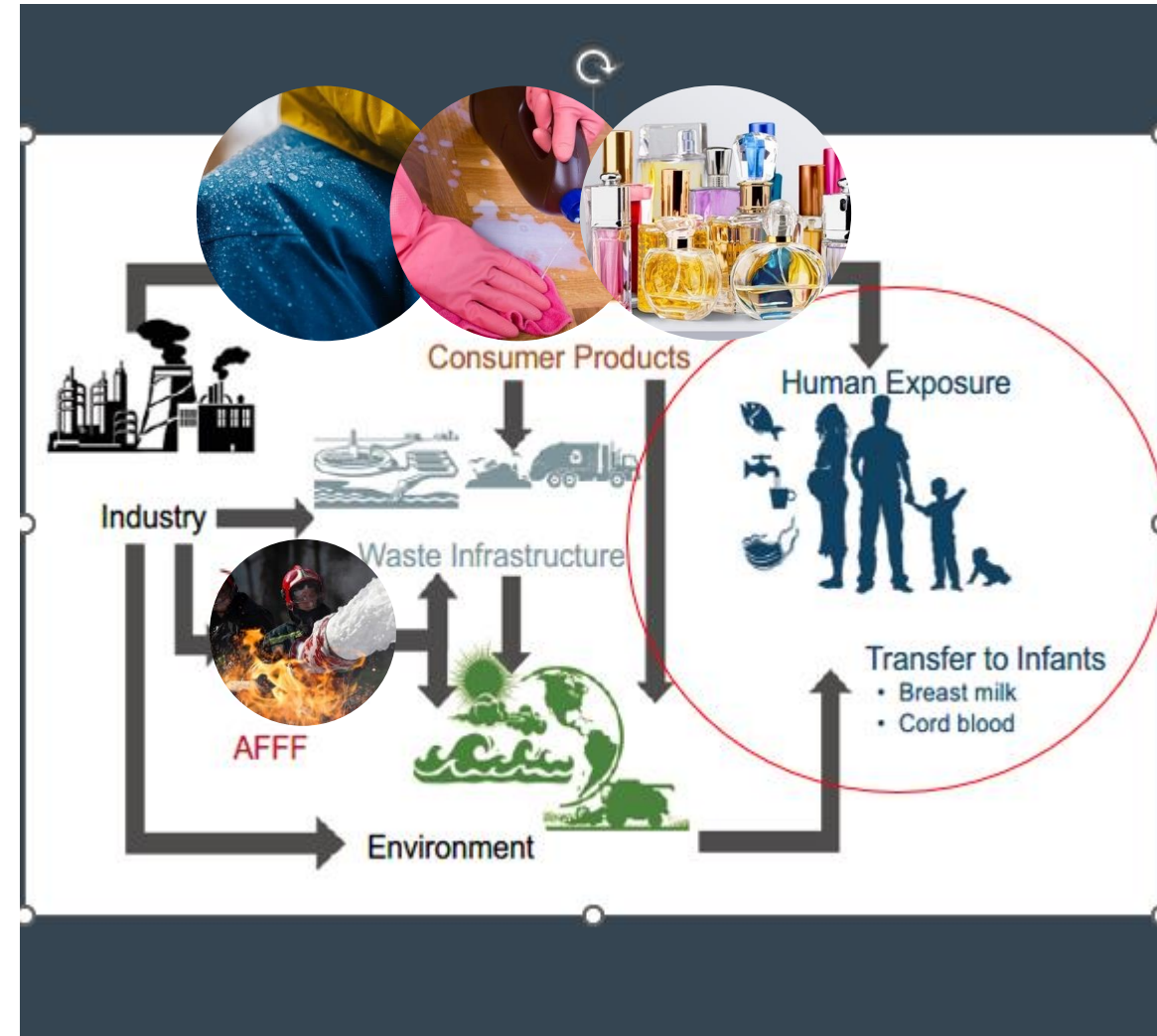
- **Class B aqueous film-forming foams (AFFF)**
- **Non-stick coatings (e.g., Teflon™)**
- **Stain treatments for fabric (e.g., Scotchgard™)**
- **Stain treatments for carpet (e.g., Stainmaster™)**
- **Waterproof/breathable clothing (e.g., Gore-Tex)**
- **Food packaging (popcorn bags, pizza boxes, fast food containers, many others)**
- **Car wax**
- **Photographic anti-reflective coatings**
- **Aerospace/aviation products/high-performance plastics**
- **Chemical and temperature resistant plastics and tubing (e.g., Teflon™ tubing)**
- **Mist-suppressant foams for electroplating**
- **Cosmetics, shampoo, conditioner, hand cream, sunscreen, toothpaste, dental floss, shaving cream, nail polish, lipstick, eyeliner, mascara**

Types of PFAS Liability Risks – Entities and Claims

- PFAS manufacturers
- PFAS users in manufacturing
- Manufacturers using PFAS without knowing
- Municipalities – water treatment
- AFFF storage, use and disposal
- PFAS migration to your property
- Drinking water/air deposition
- Vapor intrusion
- Product Liability (health)
- Prop 65
- Greenwashing Claims
- Shareholder Actions

Human Exposure to PFAS

- Food and drinking water are main sources
- Consumer products are an additional source
- Detected in blood of general population
- Slow elimination from the body (for some PFAS)



PFAS News – last week...

1. Biden Admin Issues Plans To Address PFAS Use, Exposure
2. Emerging PFAS risks: why your business should care about “forever chemicals”
3. States Respond to EPA's New Drinking Water Standards for PFAS
4. States Petition EPA to list Four PFAS as Hazardous Air Pollutants
5. New Hampshire Bans PFAS in Food Packaging and Other Products
6. Recent Study Finds PFAS in Pesticide Products
7. Petitioners Request Further EPA Action Regarding PFAS in Registered Pesticide Products
8. PFAS Drinking Water Limits Triggering Additional Action At Superfund Sites
9. PFAS rethink: WHO preparing to scrap drinking water guidelines for PFAS
10. Navigating Sites with PFAS Through the Superfund Process Is Going to Be a Bumpy Ride
11. EPA Defends PFAS Considerations In Five-Year Reviews At Superfund Sites
12. Complying With EPA's New PFAS Reporting and Recordkeeping Requirements
13. Canada Announces Mandatory PFAS Reporting Rule
14. Can ‘forever’ chemicals become less so? This senior thesis works toward smarter cleanup of PFAS.



FEDERAL PFAS ACTIONS

Biden/Harris Administration on PFAS



- **Biden Environmental Justice Plan:** Tackle water pollution in a **science-based manner**....
*“Instead of making empty promises with no follow-through, **Biden will tackle PFAS** pollution by **designating PFAS as a hazardous substance**, setting **enforceable limits** for PFAS in the Safe Drinking Water Act, prioritizing **substitutes** through procurement, and accelerating **toxicity studies** and research on PFAS”*
- **EPA PFAS Strategic Roadmap:** Federal PFAS framework
- **FY24-27 National Enforcement and Compliance Initiative (Aug. 2023) – “Addressing Exposure to PFAS”:** Achieve site characterization, control ongoing releases that pose a threat to human health and the environment, ensure compliance with permits and other agreements (e.g., Federal Facility Agreements) to prevent and address PFAS contamination, and address endangerment issues as they arise ... AND more enforcement starting FY2025

EPA PFAS Strategic Roadmap (2021-2024)

The three “Rs” – cradle-to-grave approach

Research

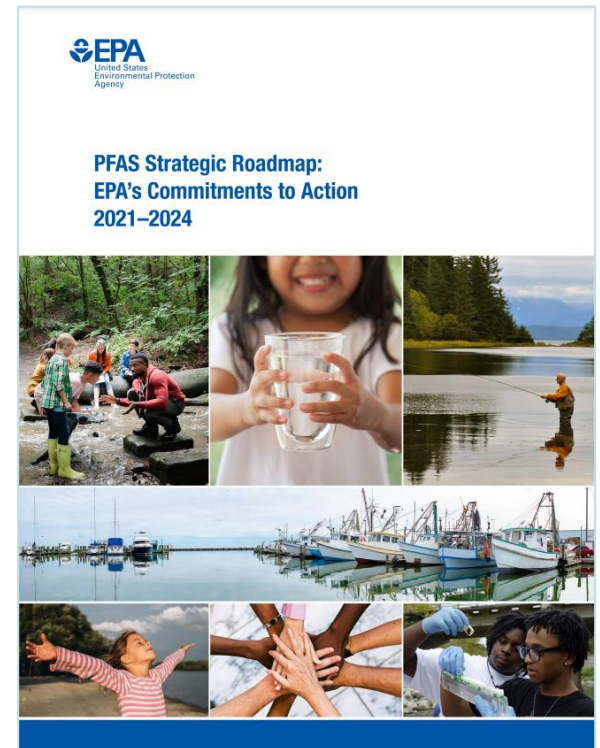
- R&D for exposures and toxicity, individual PFAS

Restrict

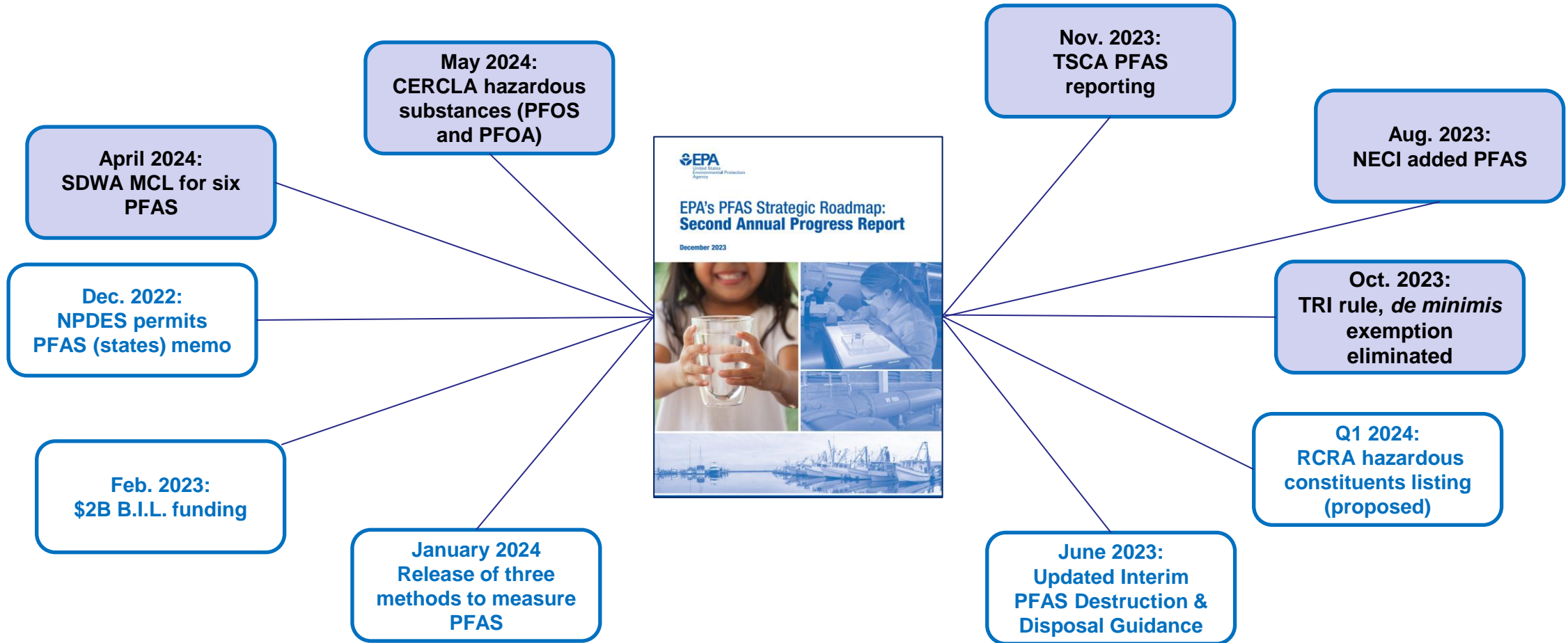
- Use all available authorities, establish voluntary programs, prevent or minimize discharges

Remediate

- Harmonize actions under all authorities, maximize PRP performance and funding, focus on EJ, accelerate new treatment, destruction, disposal and mitigation technologies



EPA PFAS Strategic Roadmap (2021-2024)



TSCA PFAS Reporting Rule (Oct. 2023)

- **Requirement:** report information on PFAS (1) uses, (2) production volumes, (3) disposal, (4) exposures, and (5) hazards
- **Scope:** any person that manufactured (including imported) PFAS or PFAS-containing articles in any year from 2011 through 2022
- **PFAS:** Structural definition, ~15,000 PFAS that are known to have been made or used in the U.S. since 2011; final rule expands on the definition of PFAS in the proposed rule to include 41 additional PFAS that were identified as being of concern
- **Deadline:** within 18 months of the effective date of the final rule (May 8, 2025) **DELAYED 9/5/24 – now January 11, 2026**
- **WHAT IS YOUR PLAN FOR COMPLIANCE?**



“The data we’ll receive from this rule will be a game-changer in advancing our ability to understand and effectively protect people from PFAS”

PFAS EPCRA TRI Reporting

- Manufacture, process, or otherwise use listed PFAS
- Reporting Year 2023 (due 7/1/2024): 9 more PFAS added.
- Reporting Year 2024 (due 7/1/2025): 7 more PFAS added
- Total PFAS under TRI: 196
- PFAS are “chemicals of special concern” → No de minimis exemption
- EPA Guidance: Threshold determinations, unknown concentrations, coincidental manufacture and precursors, articles exemptions, supplier notifications, more
 - [PFAS Reporting Resources \(epa.gov\)](https://www.epa.gov/pfas-reporting-resources)

States also focusing on PFAS...

- Remediation/Drinking Water
- PFAS use in food packaging and other consumer products
- Availability of alternative firefighting equipment and materials
- Development of treatment technologies
- Cleanup standards for contaminated properties



States – Know Your State

State laws and regulations vary widely (e.g., Maine total ban 2030 – intentionally added PFAS)

PFAS v. PFOA/PFOS, few other PFAS

Intentionally added v. merely in product

Remediation (groundwater, soil) levels

Product phase outs/bans

Changing rapidly, including more industries

Supply chain PFAS certifications, “PFAS-free”?

PFAS – Total Ban in Europe?

- **Feb. 7, 2023:** European Chemicals Agency (ECHA) REACH proposed restriction – 10,000 PFAS production and use, 1+ fluorinated carbon atom
- **6-month consultation and comment period:** 5,600 comments received
- **March 13, 2024:** comments, rule under review (March, June and Sept 2024 meetings by sector)
- **Ban in force by 2025?**
- **Restriction effective 2026/2027?**



Conditions of restriction:

1. Shall not be manufactured, used or placed on the market as substances on their own;
2. Shall not be placed on the market in:
 - another substance, as a constituent;
 - a mixture,
 - an article

in a concentration of or above:

 - 25 ppb for any PFAS as measured with targeted PFAS analysis (polymeric PFASs excluded from quantification)
 - 250 ppb for the sum of PFASs measured as sum of targeted PFAS analysis, optionally with prior degradation of precursors (polymeric PFASs excluded from quantification)
 - 50 ppm for PFASs (polymeric PFASs included). If total fluorine exceeds 50 mg F/kg the manufacturer, importer or downstream user shall upon request provide to the enforcement authorities a proof for the fluorine measured as content of either PFASs or non-PFASs.



SUPERFUND AND OTHER SITE REMEDATION

CERCLA Hazardous Substances

Final rule May 2024 (Eff. 7/8/2024)

IMMEDIATELY CHALLENGED (U.S. Chamber of Commerce)

Concern that public utilities could be liable for PFAS passing through systems under CERCLA polluter pays principle

Water coalitions urge Congress to provide statutory PFAS CERCLA liability exemption for PFAS that travels through their systems

EPA Enforcement Discretion Policy (March 2023 Listening Sessions)

PFAS – Superfund

CERCLA hazardous substances (J&S liability)

Reporting requirements (releases)

Five-year reviews

104(e) information requests

Reopeners – CDs, AOCs, UAOs

Delisting

Fingerprinting

Finger-pointing

CERCLA PFAS Enforcement Discretion & Settlement Policy

Enforcement focus

“PFAS manufacturers, federal facilities and other industrial parties whose actions resulted in the release of significant amounts of PFAS”

No enforcement focus

(i) Community water utilities, (ii) publicly owned or operated MSW landfills, (iii) farmers who accepted biosolids containing PFAS, or (iv) state/tribal/muni airports that stored or used PFAS

List of equitable factors (case-by-case consideration)

Including whether a particular entity acted in the shoes of a governmental agency or otherwise performed a valuable public service; EPA is seeking ideas for other equitable factors to consider

CERCLA only

Apply to enforcement discretion under CERCLA only, not any other federal environmental statute

Imminent and substantial endangerment (ISE)

EPA will retain the ability to address ISE situations

Comment Themes

- ✓ Public concern over PFAS
- ✓ Concern over policy v. regulation
- ✓ Polluter pays principle
- ✓ Unintended consequences
- ✓ Limited science
- ✓ Address PFAS at source before reaching environment

RCRA Corrective Action

June 2023: Proposed rules listing PFOA, PFOS and 2 more PFAS as “*hazardous constituents*” under Part 261 Appendix VIII – trigger for “*corrective action*”

February 8, 2024: Proposed FR rule, 9 total PFAS → public comment through 4/8/2024

Rules do not list any PFAS as “*hazardous waste*” to more broadly subject PFAS to RCRA’s cradle-to-grave waste management system; but *is* “a step toward a potential hazardous waste listing”

1,740 corrective action facilities could be subject to additional requirements!

PFAS Sampling & analysis

Sampling Best Practices

Wash Hands, New Gloves, Well Washed Natural Fiber clothing, PFAS free paper/writing equipment, PFAS free sunscreen and bug repellents

Dedicated sample containers that don't absorb or desorb PFAS

Robust Field QC program

- Field Blanks, Equipment Blanks, Trip Blanks
- Stringent Decontamination Protocols



PFAS Sampling & Analysis

Drinking Water or Other Media

- EPA Methods 533 or 537.1 – Drinking Water
 - Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS)
 - 56 Compounds or 42 Compounds – LOQs~ 2ppt

EPA Method 1633 – Wastewater / Biosolids

- 40 Compounds – LOQs range 1 to 25 ppt
- 5X to 10X increase in LOQs for leachate/biosolids

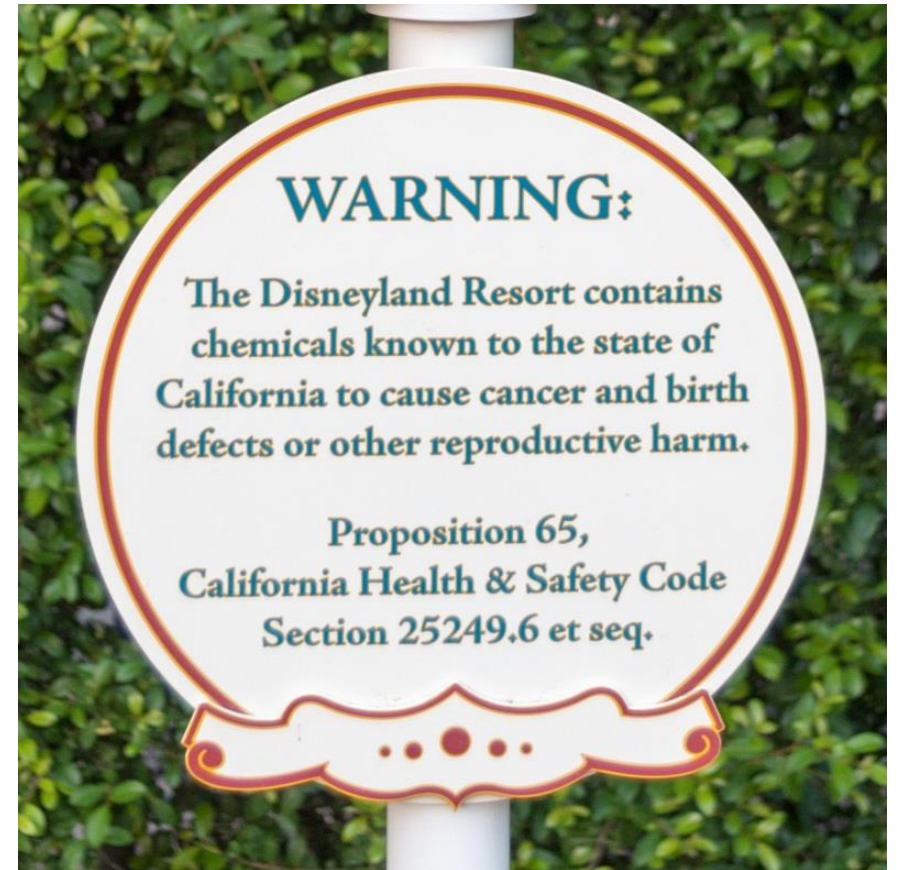
How low can we go?

- Background impacts can mask results
- Unable to measure 1,000's of “sister” compounds
- Regulation levels are at the edge of analytical method detection.
 - Regulatory Level ~= 4 ppt



California Prop 65 - PFAS

- PFOS, PFOA, PFNA, PFDA
- Wave of Prop 65 NOVs
- Aggressive NGOs
- Product testing and lab issues!
- STORYTIME...





PFAS DRINKING & WASTEWATER

EPA Response to PFAS Drinking Water Concern

- ~\$10 billion included in Bipartisan Infrastructure Law: invest in communities with drinking water impacted by PFAS and other emerging contaminants

\$4 billion: Drinking Water State Revolving Fund (DWSRF)

\$5 billion: EPA “Emerging Contaminants in Small or Disadvantaged Communities” grant program

Biden-Harris Administration Announces \$2 Billion in Bipartisan Infrastructure Law Funding to States and Territories to Address Emerging Contaminants like PFAS in Drinking Water

WASHINGTON (Feb. 13, 2023) – Today, U.S. Environmental Protection Agency (EPA) Administrator Michael S. Regan announced the availability of \$2 billion from President Biden’s Bipartisan Infrastructure Law to address emerging contaminants, like Per- and Polyfluoroalkyl Substances (PFAS) in drinking water across the country. This investment, which

EPA Drinking Water MCLs and HALs

- Final Rule April 26, 2024 (Eff. 6/25/2024) **Immediately Challenged** (Chemours; American Water Works Association; Association of Metropolitan Water Agencies – 3 lawsuits)

Constituent	2016 HAL	2022 HAL	2024 Final MCL
PFOA	70 PPT	4 PP <u>Q</u>	4 PPT
PFOS	70 PPT	20 PP <u>Q</u>	4 PPT
GenX, PFNA, PFHxS,	N/A	10 PPT	10 PPT (each)
Mixtures containing two or more of PNFA, PFHxS, GenX, PFBS,	N/A	N/A	1.0 Hazard Index (mixture)

Dayton to spend millions to reduce PFAS chemicals in city, county drinking water

City plans to boost output from PFAS-free well field and mix it with existing water supply to lower concentrations of toxic PFAS chemicals

PFOA = 7 ppt



NPDES Permitting

- Multiple U.S. EPA Memos
- State and Federal
- Method 1633 and Method 1621

Frequent Questions about PFAS Methods for NPDES Permits

As permitting authorities focus more on controlling the discharge of per- and polyfluorinated alkyl substances (PFAS) in wastewater, questions arise about the best practices for analyzing for these pollutants. To understand the current and upcoming regulatory and analytical landscape, the EPA has developed a list of questions and answers in response to public inquiries. The EPA released the final methods and the multi-laboratory study reports for both Method 1633 and Method 1621 on the Clean Water Act Methods website on Wednesday, January 31, 2024.

1. What methods may be used to analyze PFAS in a [National Pollutant Discharge Elimination System \(NPDES\)](#) permit or pretreatment permits for industrial users that discharge to publicly owned treatment works (POTWs)?

Frequent Questions

- [2017 Methods Update Rule - Methods 608.3, 624.1 and 625.1](#)
- [Approved methods](#)
- [Cyanide measurements](#)
- [Hexavalent chromium](#)
- [Method Detection Limit](#)
- [Oil & grease](#)

PFAS LITIGATION LIGHTNING ROUND



Litigation at a Glance

In Re: *E.I. Du Pont de Nemours and Co. C-8 Pers. Inj. Litig.*, (Hardwick v. 3M Co.), 87 F.4th 315 (6th Cir. 2023): “Seldom is so ambitious a case filed on so slight a basis”

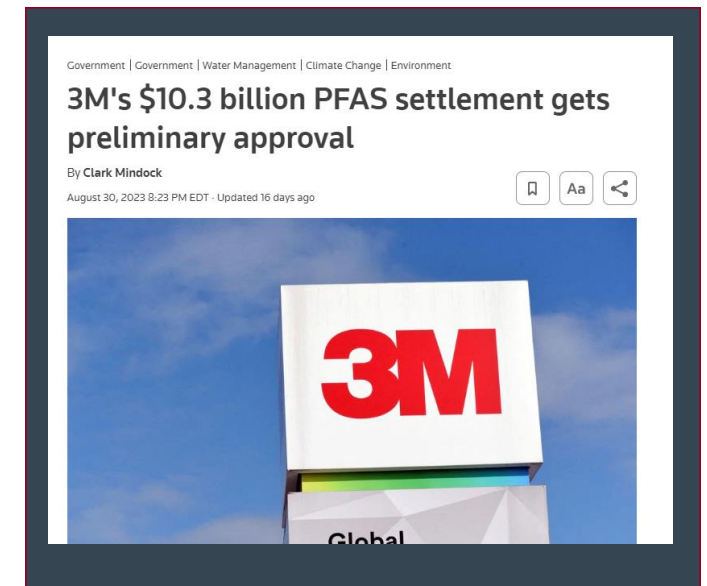
AFFF MDL (D. S.C.) 13,000 cases. 3M \$10.3B; DuPont \$1.185B: funds cities, towns and other public water providers to test for and treat PFAS contamination

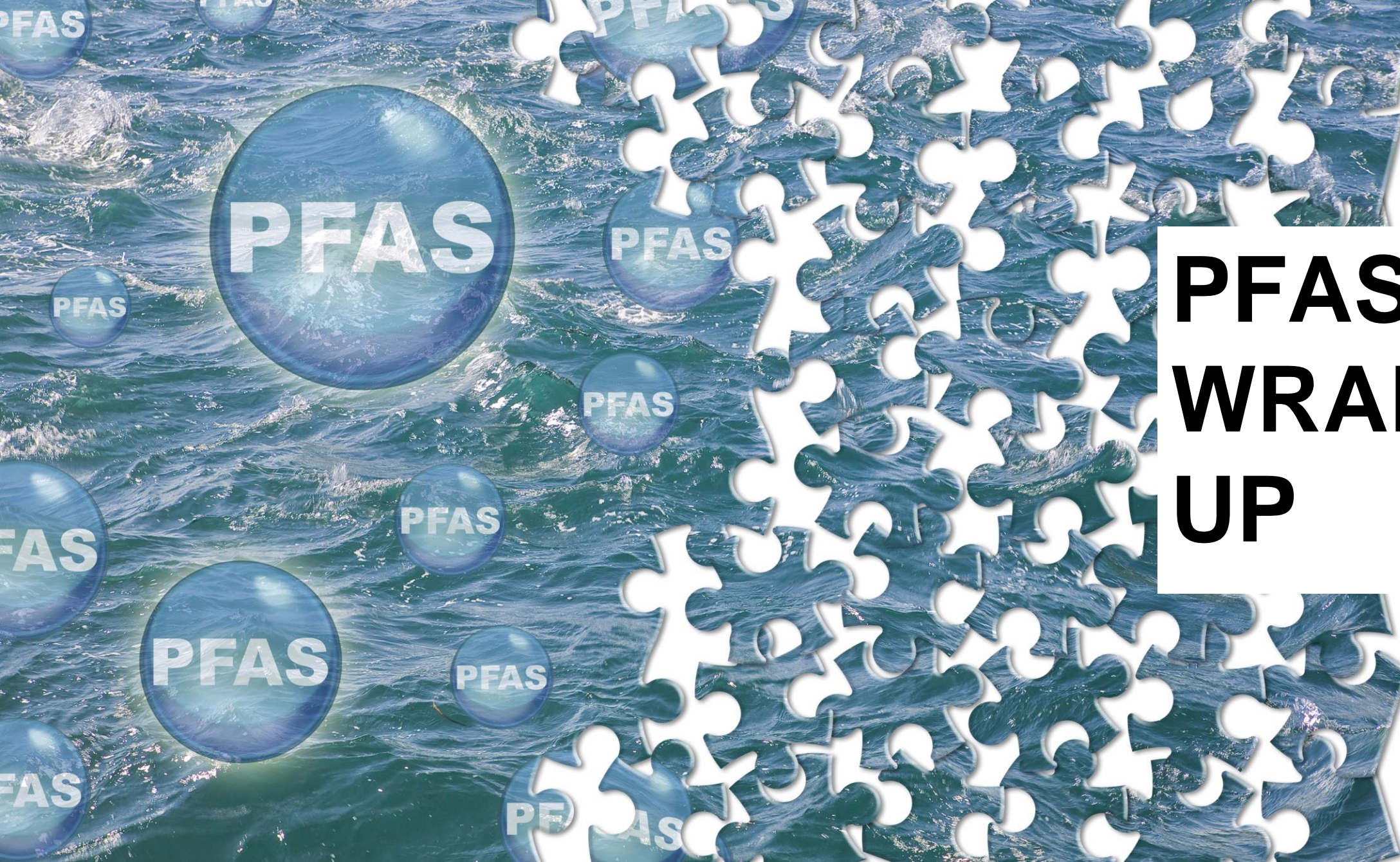
More than half of states attorney generals have filed suit for PFAS contamination

Primary PFAS manufacturers; manufacturers using PFAS; cosmetics; food packaging

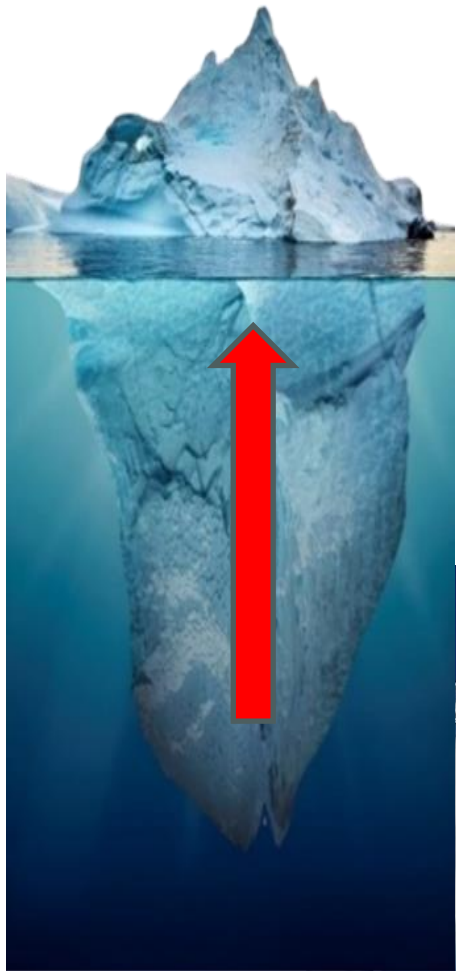
Department of Defense

Greenwashing – “PFAS free” or other claims (natural; organic)





PFAS WRAP UP



Key Takeaways & Recommendations

The tip of the iceberg (now way out of the water) – environmental, product regulation, litigation, toxicity

An avalanche of laws, regulations, guidance and litigation

Stay current on changes –
KNOW YOUR JURISDICTION

Proactive v. reactive decisions – evaluate risks

Scientific uncertainty and rapid changes

Public relations and communications: risk management

PFAS Risk Mitigation Tips

Know your
business

Consider
product
reformulations

Secure
against
releases

Corporate &
Real estate
diligence

Insurance

Remediate or
wait

Seek Legal and
Technical Expertise

For More Information

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Questions?