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**2022
EARTH DAY
CELEBRATION**

Emerging Contaminants: The Road Ahead

Stephanie R. Feingold | Jeremy Esterkin | Drew Cleary Jordan

April 19, 2022

Program Overview

- **APRIL 18** | Reaching Net Zero Together: Environmental Considerations in Alternative Energy Development
- **APRIL 19** | Emerging Contaminants—The Road Ahead
- **APRIL 20** | Major Federal Environmental Cases—What Lies Ahead
- **APRIL 21** | Climate Change Regulation—From Emissions Standards to Disclosure Rules and Everything In Between

Recordings and registration for upcoming events available at
<https://www.morganlewis.com/events/earth-day-celebration-series>

Presenters



Stephanie R. Feingold
Partner, Princeton/
New York



Jeremy Esterkin
Partner, Los Angeles



Drew Cleary Jordan
Associate, Washington,
DC/ Princeton

Morgan Lewis

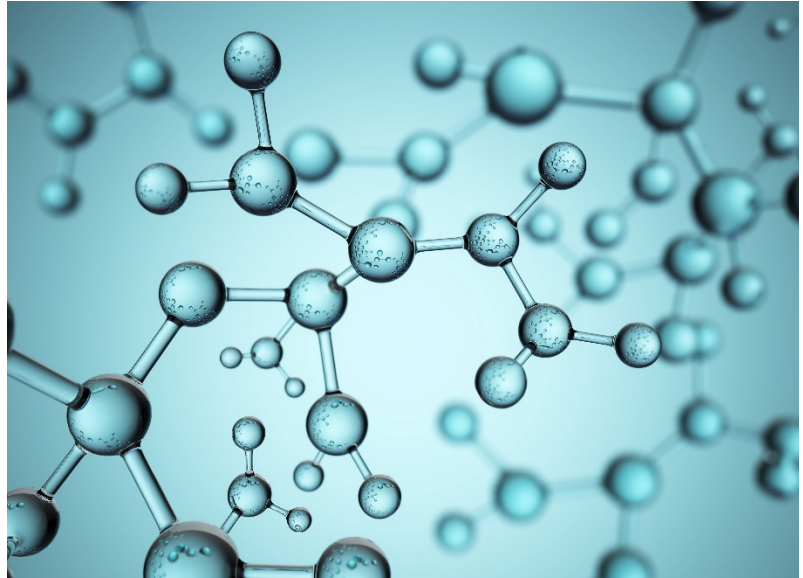


**PFAS:
Per- and polyfluoroalkyl
substances**

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What are PFAS and why do they matter?

- Chain of carbon and fluorine atoms
- Valuable properties
 - Very durable
 - Moisture repellent
 - Heat resistant



What are PFAS and why do they matter?

- Common applications:
 - Fabric treatments
 - Firefighting foam
 - Paper coating
 - Cosmetics
 - Cleaning products
 - Electrical insulation

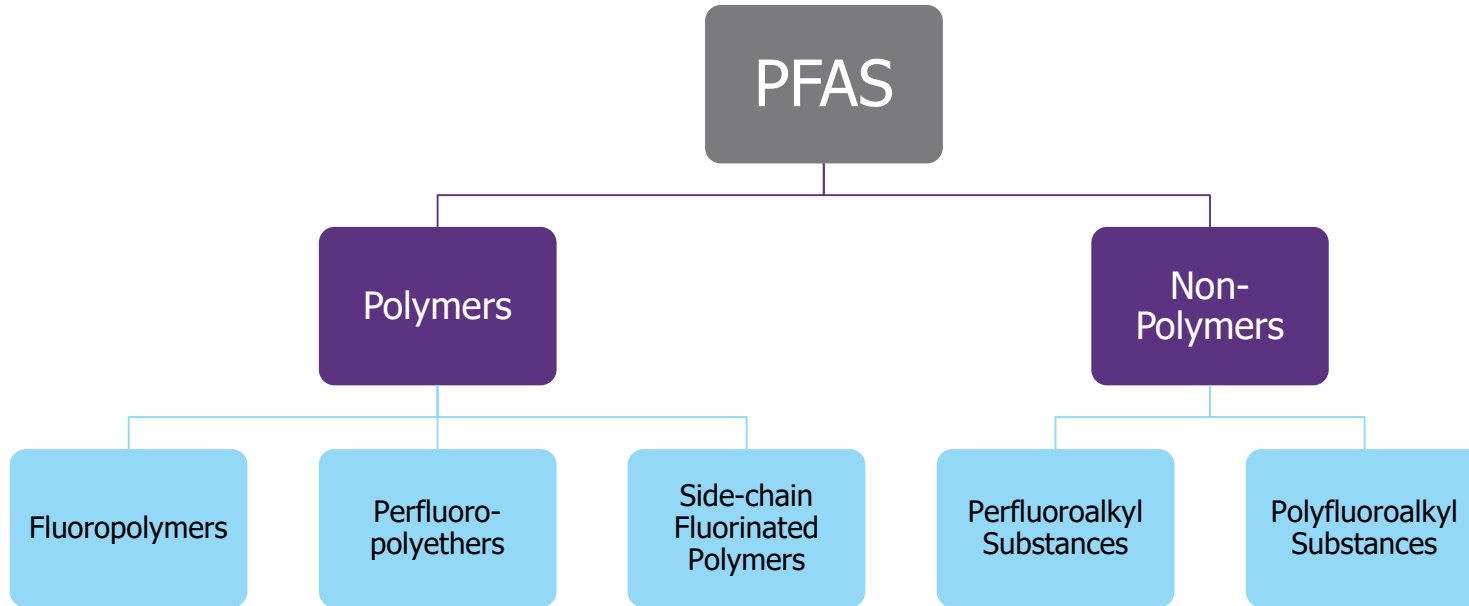


What are PFAS and why do they matter?

- PFAS in the environment
 - Persistent
 - Mobile
 - Tendency to bioaccumulate and biomagnify

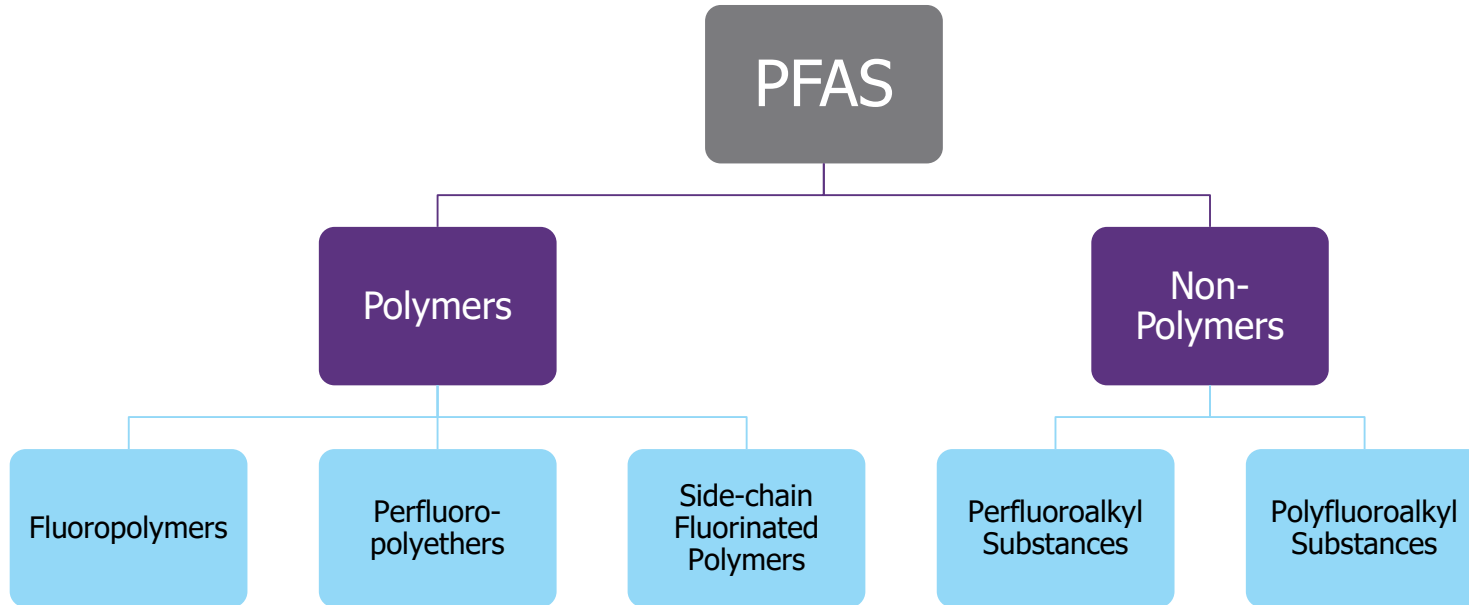
What are PFAS and why do they matter?

- U.S. EPA master list: 9,252



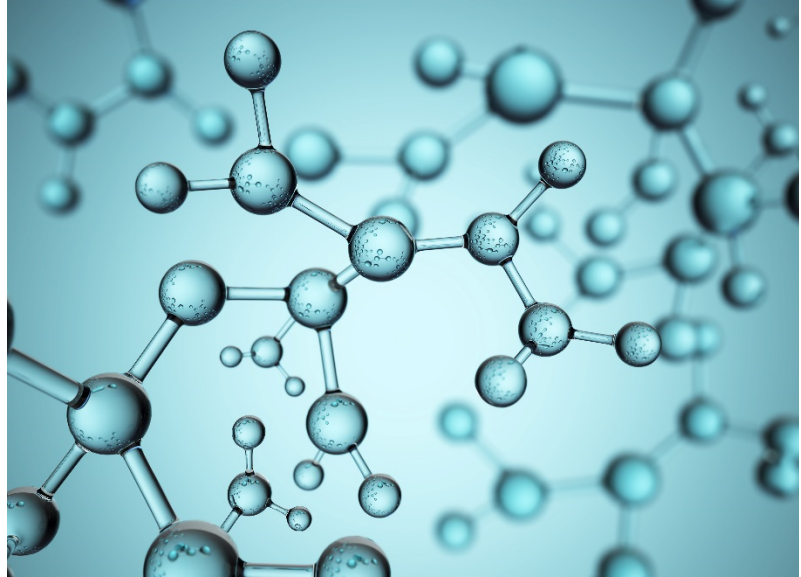
What are PFAS and why do they matter?

- U.S. EPA master list: ~~9,252~~ **12,034**



What are PFAS and why do they matter?

- Very significant differences affecting potential toxicity and mobility in the environment
 - Molecule size
 - Physical state at room temperature
 - Density
 - Thermal stability
 - Melting/boiling points
 - Many other variables



PFAS Toxicity?

Research involving humans suggests that high levels of certain PFAS **may** lead to the following:



Increased cholesterol levels



Changes in liver enzymes



Small decreases in infant birth weights



Decreased vaccine response in children



Increased risk of high blood pressure or pre-eclampsia in pregnant women



Increased risk of kidney or testicular cancer

ATSDR Agency for Toxic Substances and Disease Registry

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PFAS Toxicity?



National Institute of
Environmental Health Sciences

*"At this time, **scientists are still learning** about the health effects of exposures to mixtures of different PFAS.... **Additional research may change our understanding** of the relationship between exposure to PFAS and human health effects."*

*"Human health effects from exposure to low environmental levels of PFAS are uncertain.... **More research is needed** to assess the human health effects of exposure to PFAS."*

*"When looking for possible human-health effects of chemical compounds, it is important to understand **that they are hard to study, especially with thousands of variations in PFAS chemicals**.... While knowledge about the potential health effects of PFAS has grown, **many questions remain unanswered**."*

PFAS Toxicity?

- PFOA and PFOS
 - Significant historical usage
 - Most well-studied of the PFAS chemicals
 - Phased out of US manufacturing:
 - PFOS – 2002
 - PFOA Stewardship Program
 - 95% by 2010
 - Full phase-out by 2015
- More recent EPA risk assessments for others including GenX, PFHxA, PFBS



PFAS Toxicity?

Dangerous PFAS Chemicals Are in Your Food Packaging

CR found 'forever chemicals' in bowls, bags, plates, and wrappers, even from some companies that say they've phased them out

<https://www.consumerreports.org/pfas-food-packaging/dangerous-pfas-chemicals-are-in-your-food-packaging-a3786252074/>

Opinion: PFAs are highly toxic chemicals, and they're common near airports in San Diego

<https://www.sandiegouniontribune.com/opinion/commentary/story/2022-03-14/opinion-george-jiracek-gary-butterfield-pfas-toxic-chemicals-water-san-diego-county>

PFAS

Higher levels of PFAS exposure may increase chance of Covid, studies say

<https://www.theguardian.com/environment/2022/mar/10/pfas-covid-infection-forever-chemicals-studies>

PFAS Toxicity?

PFAS Strategic Roadmap: EPA's Commitments to Action 2021–2024

Introduction

Harmful per- and poly-fluoroalkyl substances (PFAS) are an urgent public health and environmental issue facing communities across the United States. PFAS have been manufactured and used in a variety of industries in the United States and around the globe since the 1940s, and they are still being used today. Because of the duration and breadth of use, PFAS can be found in surface water, groundwater, soil, and air—from remote rural areas to densely-populated urban centers. A growing body of scientific evidence shows that exposure at certain levels to specific PFAS can adversely impact human health and other living things. Despite these concerns, PFAS are still used in a wide range of consumer products and industrial applications.

Every level of government—federal, Tribal, state, and local—needs to exercise increased and sustained leadership to accelerate progress to clean up PFAS contamination, prevent new contamination, and make game-changing breakthroughs in the scientific understanding of PFAS. The EPA Council on PFAS developed this strategic roadmap to lay out EPA's whole-of-agency approach to addressing PFAS. To deliver needed protections for the American people, the roadmap sets timelines by which the Agency plans to take specific actions during the first term of the Biden-Harris Administration. The strategic roadmap builds on and accelerates implementation of policy actions identified in the Agency's 2019 action plan and

commits to bolder new policies to safeguard public health, protect the environment, and hold polluters accountable.

The risks posed by PFAS demand that the Agency attack the problem on multiple fronts at the same time. EPA must leverage the full range of statutory authorities to confront the human health and ecological risks of PFAS. The actions described in this document each represent important and meaningful steps to safeguard communities from PFAS contamination. Cumulatively, these actions will build upon one another and lead to more enduring and protective solutions.

EPA's integrated approach to PFAS is focused on three central directives:

- **Research.** Invest in research, development, and innovation to increase understanding of PFAS exposures and toxicities, human health and ecological effects, and effective interventions that incorporate the best available science.
- **Restrict.** Pursue a comprehensive approach to proactively prevent PFAS from entering air, land, and water at levels that can adversely impact human health and the environment.
- **Remediate.** Broaden and accelerate the cleanup of PFAS contamination to protect human health and ecological systems.



PFAS Toxicity?

PFAS Strategic Roadmap: EPA's Commitments to Action 2021–2024

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Federal Regulation of PFAS: A Commitment to Action in 2021-2024

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Campaign Promises to Action



A pledge to “tackle water pollution in a science-based manner” and to “improv[e] water quality in a comprehensive way.”



“PFAS, PFOA, perfluorinated compounds, will be a top priority for this Administration. We will pursue discharge limits. We will pursue water quality values. We will pursue all avenues that we can while we are developing these rulemaking processes, to give the proper signals to States, so that States can take the appropriate actions.”

Sprinting Out of the Gates: Early Actions of a New Administration



Launched a national PFAS testing strategy.

Restarted rule development process for designating PFOA and PFOS as CERCLA hazardous substances.

Built momentum to set national primary drinking water standard for PFOA and PFOS,

Announced actions to stop companies from dumping PFAS into America's waterways.

Formed a workgroup to champion regulating PFAS as categories.

Proposed a rule to expand data collection efforts on PFAS.

Started planning to conduct expanded nationwide monitoring for PFAS in drinking water.

Announced robust review process for new PFAS.

Released preliminary Toxics Release Inventory data on PFAS.

Updated a toxicity assessment for PFBS after rigorous scientific review.

Released a draft PFBA toxicity assessment for public comment and external peer review.

EPA Council on PFAS

April 27, 2021: establishment of the EPA Council on PFAS

- Charged with building on the agency's ongoing work to better understand and ultimately reduce the potential risks caused by PFAS chemicals building off the prior administration's PFAS Action Plan
- Directed to:
 - Development of multi-year strategy to deliver critical public health protections to the public;
 - Continue close interagency coordination;
 - Work with national program offices and regions to maximize EPA's funding and financing to support PFAS cleanup; and
 - Expand engagement opportunities with federal, state, and tribal partners



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D. C. 20460

April 27, 2021

THE ADMINISTRATOR

MEMORANDUM

SUBJECT: Memorandum Regarding Per- and Polyfluoroalkyl Substances

FROM: Michael S. Regan

Handwritten signature of Michael S. Regan in black ink.

TO: General Counsel
Assistant Administrators
Inspector General
Chief Financial Officer
Chief of Staff
Associate Administrators
Regional Administrators
Deputy Assistant Administrators
Deputy Regional Administrators

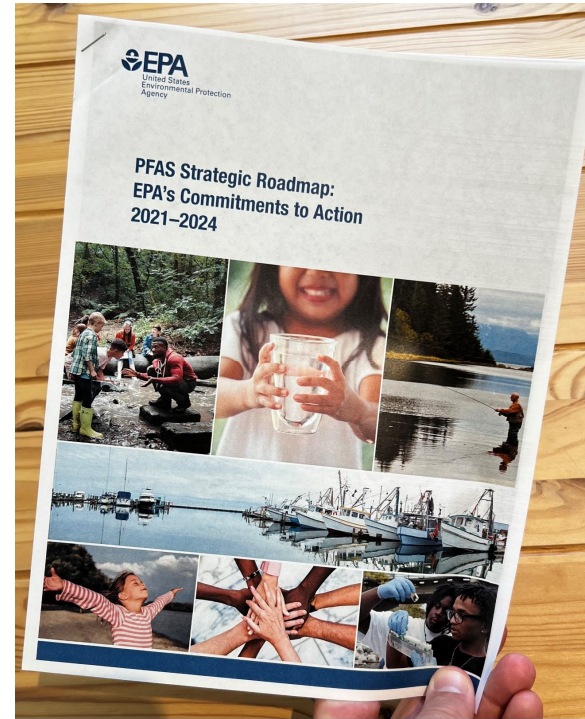
As Secretary of the North Carolina Department of Environmental Quality, I saw firsthand how devastating per- and polyfluoroalkyl substances pollution can be for communities. Many PFAS persist in the environment and accumulate in the body, putting those exposed at risk of severe health effects. The scope of PFAS contamination in the United States and the potential public health threat makes our task to address these chemicals particularly challenging and urgent.

In North Carolina, I also wanted strong federal leadership. Now, as the EPA's Administrator, tackling this problem will be one of my top priorities. We will take meaningful action, following the science and following the law, to better understand and ultimately reduce the potential risks caused by these chemicals. I am committed to listening to the public and working collaboratively with states, tribes, local governments, industry, water systems and impacted communities to identify pragmatic approaches that will deliver critical protections across the country.

In the early days of this administration, we took some important steps. We pulled down a PFBS toxicity assessment that had been politically compromised and issued a new assessment backed by career scientists. We have taken swift action to begin to develop a national primary drinking water regulation, to collect new data critically needed to improve the EPA's understanding of 29 PFAS and to solicit data on the presence and treatment of PFAS in wastewater discharges. We have also voiced our strong support for President Biden's American Jobs Plan, which calls for investing billions of dollars to monitor and treat PFAS in drinking water.

PFAS Strategic Roadmap: EPA's Commitments to Action 2021-2024

- EPA Administrator Regan announced Agency's PFAS Strategic Roadmap on October 18, 2021
- Roadmap sets timelines for specific EPA actions and commits to bolder new policies to safeguard public health, protect the environment, and hold polluters accountable
- Whole-of-agency approach to address PFAS



The Roadmap's Principles to Tackle PFAS

- Unique challenges posed by PFAS require that EPA use “every tool in its tool box”
- Consider the Lifecycle of PFAS
- Get Upstream of the Problem
- Hold Polluters Accountable
- Ensure Science-Based Decision-Making
- Prioritize Protection of Disadvantaged Communities

EPA's Roadmap Goals to Address PFAS

Research

- Invest in research, development, and innovation to increase understanding of PFAS exposures and toxicities, human health and ecological effects, and effective interventions that incorporate the best available science

Restrict

- Pursue a comprehensive approach to proactively prevent PFAS from entering air, land, and water at levels that can adversely impact human health and the environment

Remediate

- Broaden and accelerate the cleanup of PFAS contamination to protect human health and ecological systems

Roadmap Priorities

- Timelines to set **enforceable drinking water limits** under the Safe Drinking Water Act
- **A hazardous substance designation** under CERCLA
- Timelines for action on **Effluent Guideline Limitations under the Clean Water Act for nine industrial categories.**
- **Review of past PFAS actions taken under the Toxic Substances Control Act** to address underrepresented populations.
- Increased **monitoring, data collection and research** to allow EPA to identify what actions are needed and when to take them.
- A final **toxicity assessment for GenX**, which can be used to develop health advisories that will help communities make informed decisions to better protect human health and ecological wellness.
- Continued efforts to build the **technical foundation needed on PFAS air emissions** to inform future actions under the Clean Air Act.

What's Next?

Office of Chemical Safety and Pollution Prevention

- Conduct review under TSCA of existing and legacy PFAS (***expected summer 2022 and ongoing***)
- Rulemaking to remove exemptions and exclusions under TRI (***expected spring 2022***)

Office of Water

- Establish a national primary drinking water regulation for PFOA and PFOS (***expected proposed rule fall 2022, final rule fall 2023***)
- Final toxicity assessment and health advisories (***assessments ongoing***)
- Study and set effluent limitations guidelines (***expected 2022 and ongoing***)

Office of Land and Emergency Management

- CERCLA hazardous substances designation (***proposed rule expected *spring 2022,* final rule expected summer 2023***)
- Issue updated destruction and disposal guidance (***expected fall 2023***)

PFAS Toxicity Assessments

- PFBS and GenX
 - Final toxicity assessments released
- PFBA and PFHxA
 - Draft assessments released
- PFHxS, PFNA, and PFDA
 - Undergoing IRIS assessment
 - Draft assessments expected in Summer-Fall 2022



PFAS Reporting Rule: TSCA Section 8(a)(7)

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PFAS Reporting Rule – TSCA Section 8(a)(7)

1. Compliance challenges
2. Influence future PFAS regulations
3. Potential enforcement and/or litigation



PFAS Reporting Rule – TSCA Section 8(a)(7)

“Not later than January 1, 2023, the Administrator shall promulgate a rule in accordance with this subsection requiring each person who has manufactured a [PFAS] chemical ... in any year since January 1, 2011, to submit to the Administrator a report that includes, for each year since January 1, 2011, the information described in subparagraphs (A) through (G) of paragraph (2).”

15 U.S.C. § 2607(a)(7)

PFAS Reporting Rule – TSCA Section 8(a)(7)

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15 U.S.C. § 2607(a)(7)

PFAS Reporting Rule – TSCA Section 8(a)(7)

“The term ‘manufacture’ means to **import** into the customs territory of the United States..., **produce**, or **manufacture**.”

15 U.S.C. § 2602(9)

PFAS Reporting Rule – TSCA Section 8(a)(7)

“Not later than January 1, 2023, the Administrator shall promulgate a rule in accordance with this subsection requiring each person who has **manufactured[, imported or produced]** a [PFAS] chemical ... in any year since January 1, 2011, to submit to the Administrator a report that includes, for each year since January 1, 2011, the information described in subparagraphs (A) through (G) of paragraph (2).”

15 U.S.C. § 2607(a)(7)

Proposed Rule

Key Issues:

1. **Who** is required to report?
2. **What** information is required?
3. **How** does the proposed rule define PFAS?

Who is required to report?

- Anyone who “manufactured” a PFAS chemical from 2011 to the present

Who is required to report?

- Anyone who “manufactured” a PFAS chemical from 2011 to the present
- “For the purposes of this proposed rule, **articles** containing PFAS, including imported articles containing PFAS (such as articles containing PFAS as part of surface coatings), **are included in the scope of reportable chemical substances.**”

Who is required to report?

- Anyone who “manufactured” a PFAS chemical from 2011 to the present
- “For the purposes of this proposed rule, **articles** containing PFAS, including imported articles containing PFAS (such as articles containing PFAS as part of surface coatings), **are included in the scope of reportable chemical substances.**”
- “This proposed rule under TSCA section 8(a)(7) **does not exempt small manufacturers** from reporting and recordkeeping requirements.”

What information is required?

- **Report Contents (per PFAS chemical, per year)**
 - Basic chemical info
 - Categories of use
 - Total volume manufactured
 - Description of byproducts
 - “All existing environmental and health effects information of such substance or mixture”
 - Number of persons exposed at work
 - Disposal practices and volumes

What information is required?

- **What if information is unavailable?**
 - Research required
 - Make reasonable estimates
 - Document efforts



How does the proposed rule define PFAS?

“Per- and polyfluoroalkyl substances or PFAS, for the purpose of this part, means any chemical substance or mixture that structurally contains the unit $R-(CF_2)-C(F)(R')R''$. Both the CF_2 and CF moieties are saturated carbons. None of the R groups (R , R' or R'') can be hydrogen.”

Looking Ahead to the Final Rule

“EPA shall, to the extent feasible:

- (A) Not require reporting which is unnecessary or duplicative;
- (B) Minimize the cost of compliance with TSCA section 8 and the rules issued thereunder on small manufacturers and processors; and
- (C) Apply any reporting obligations to those persons likely to have information relevant to the effective implementation of this subchapter”

15 U.S.C. § 2607(a)(5)

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15 U.S.C. § 2607(a)(5)

Looking Ahead to the Final Rule

“The Panel process offers an opportunity for small businesses, small governments, and small not-for-profit organizations (collectively referred to as small entities) to provide advice and recommendations **to ensure that EPA carefully considers small entity concerns regarding the impact of the potential rule on their organizations.**”

Looking Ahead to the Final Rule

“The Panel process offers an opportunity for small businesses, small governments, and small not-for-profit organizations (collectively referred to as small entities) to provide advice and recommendations **to ensure that EPA carefully considers small entity concerns regarding the impact of the potential rule on their organizations.**”

But...

“Rather than amend TSCA section 8(a)(1) [which exempts small manufacturers from chemical reporting requirements], Congress chose to add an entirely new, standalone subsection to TSCA section 8(a). **This indicates an intent for TSCA section 8(a)(7) to constitute separate, freestanding rulemaking authority**”

Looking Ahead to the Final Rule

“However, collecting information on PFAS identities, uses, production volumes by category of use, byproducts, environmental and health effects, workers exposure, and disposal **supports the Agency's mission in the PFAS Action Plan to identify and better understand these chemicals and to increase scientific research on them.**”

Looking Ahead to the Final Rule

“EPA shall, to the extent feasible:

- (A) Not require reporting which is unnecessary or duplicative;
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- (C) Apply any reporting obligations to those persons likely to have information relevant to the effective implementation of this subchapter”**

15 U.S.C. § 2607(a)(5)

Looking Ahead to the Final Rule

“[T]he **Agency would benefit from collecting the requested information on PFAS-containing articles** (including articles containing PFAS as part of surface coatings) because the information would **improve the Agency's knowledge** of various products which may contain PFAS, their categories of use, production volumes, and exposure data. **Such data are not currently known to EPA.**”

Implications of the PFAS Reporting Rule

1. Guide future regulations
2. Possible enforcement actions
3. Potential litigation



Proposed Regulation of PFAS Under CERCLA

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Proposed Regulation of PFAS Under CERCLA

- October 2021 Roadmap:
 - Propose to designate PFOA and PFOS as hazardous substances under CERCLA
 - Proposed rule expected “Spring 2022”; Final rule expected Summer 2023
 - January 10, 2022: EPA submitted proposed rule to OMB
 - ~ 90 days for OMB review
 - Issue Advance Notice of Proposed Rulemaking seeking public input on whether to designate other PFAS as hazardous substances under CERCLA
 - Expected “Spring 2022”

Significance of CERCLA Designation

- First designation of a chemical as a hazardous substance under CERCLA by rulemaking
- Potential impacts to a broad range of companies and industries
- Possible exemptions?
- State standards as ARARs
- Cost recovery and contribution claims

Practical Impacts of CERCLA Designation

- PFOA and PFOS/PFAS would be included in RI/FS process at Superfund sites
 - Expands scope (and costs) of investigations – including HHERAs.
 - Possible delays to RI/FS process and remediation as new substances are added to sites under active investigation
- Possible addition of new PRPs to sites
- Addition of new sites to NPL based on PFAS contamination
- Possible reopener under 5-year-review process
- Triggers release reporting requirements under CERCLA and EPCRA



Challenges of CERCLA Designation

- Limits on testing/lab capacity
- Lag in development of remediation/treatment methods
- Disposal/destruction of PFAS remediation wastes
 - Currently no clear guidance
 - Updated guidance due by December 2023
 - EJ considerations



Preparing for CERCLA Designation

- Acquisitions: Include PFOA and PFOS in due diligence process, including consideration of potential liability for historic PFAS use
 - Revised ASTM Phase 1 site assessment standard (E1527-21) includes option of including PFAS when assessing potentially contaminated properties
 - EPA pending revision of All Appropriate Inquiry rule
- Manufacturers/Site Owners: Identify current and historical uses and storage and disposal practices of PFOA and PFOS at sites
 - Possible synergies with proposed TSCA Section 8(a) reporting rule
- PRPs: Include PFAS in private settlements and Consent Decrees
- Consider submitting comments on proposed rule



Other Emerging Contaminants

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More Than Just PFAS

- General Definition: An emerging contaminant is a chemical or material characterized by a perceived, potential, or real threat to human health or the environment or by a lack of published health standards.
- Of particular interest/concern for water bodies
- Some commonly discussed emerging contaminants:
 - 1,4-dioxane
 - Perchlorate
 - Nanomaterials
 - Microplastics



Spotlight on 1,4-Dioxane

- Historically, widely used as a stabilizer in chlorinated solvents such as 1,1,1-trichloroethane (TCA)
- Currently used as a solvent in a variety of commercial and industrial applications
- By-product from ethoxylation of other chemicals
- Highly mobile, completely miscible in water, and does not readily biodegrade
- EPA has classified it as “likely to be carcinogenic to humans” (EPA IRIS 2013)
- The International Agency for Research on Cancer (IARC) has classified it as “possibly carcinogenic to humans”

EPA Regulation of 1,4-Dioxane

- Listed as a hazardous substance under CERCLA
- Designated a Hazardous Air Pollutant (HAP) under the CAA
- On TRI since 1987
- Being evaluated for regulation under the SDWA
 - Listed in third and fourth Unregulated Contaminant Monitoring Rule (UCMR3 and UCMR4).
 - February 2020: EPA declined to make a preliminary determination regarding 1,4-dioxane under the SDWA; remains on draft Fifth CCL; EPA continues to evaluate
 - February 2021: 1,4-dioxane excluded from the list of contaminants identified by EPA for action under SDWA (CCL 4)
 - December 2021: Not listed in UCMR5

EPA Regulation: TSCA and 1,4-Dioxane

November 2016

Listed with first 10 high-priority chemicals for risk evaluations under TSCA

December 2016

EPA initiates risk evaluation

June 2019

EPA released the draft risk evaluation for 1,4-dioxane

- Excluded consumer uses/1,4-dioxane present as byproduct from ethoxylation

November 2020

EPA released a supplemental analysis to the draft risk evaluation

- Included eight consumer uses where 1,4-dioxane is present as a byproduct
- Also assessed exposure to general population from 1,4-dioxane in surface water (but not drinking water)

December 2020

EPA released final risk evaluation for 1,4-dioxane.

Findings:

- Unreasonable risks to workers and occupational non-users from 13 conditions of use
- No unreasonable risks to the environment, consumers, bystanders, or the general population

TSCA and Regulation of 1,4-Dioxane (cont'd)

- Controversy Associated with Supplemental Analysis to Risk Evaluation
 - Challenges Raised
 - 20-day comment period does not comply with regulatory requirements
 - Rush to issue risk evaluation before year-end
 - Failure to assess risks from additional exposure pathways, such as drinking water
 - No peer review of supplemental analysis
 - Other critiques
 - Deliberate effort to preempt state efforts (e.g., NY, CA) to regulate 1,4-dioxane in consumer products



TSCA and 1,4-Dioxane (cont'd)

- 2021: New Administration announces EPA will rework each of the “first 10” completed TSCA risk evaluations to use the whole-chemical model.
- Seven of the 10 (including 1,4-dioxane) also in line for new risk screenings designed to identify dangers to fence-line communities from air and water releases that the Trump EPA might have excluded from its reviews.
- 1,4-dioxane last in line and will be subject to most substantial reconsideration, recognizing the many concerns raised to the 2020 risk evaluation.
- New anticipated timeline for 1,4-dioxane:
 - January 2024: Proposed Rule
 - January 2025: Final Rule

Perchlorate

- Both naturally occurring and man-made
- Contamination has been found at sites involved in the manufacture, maintenance, use and disposal of ammunition and rocket fuel
- Highly soluble in water; migrates quickly from soil to groundwater
- Affects thyroid gland by interfering with iodide uptake
- EPA issued Interim Drinking Water Health Advisory, but has declined to regulate perchlorate in drinking water (July 2020/March 2022)

Nanomaterials (NMs)

- Diverse class of substances that have structural components smaller than 100 nanometers (nm) in at least one dimension
- Include nanoparticles (NPs), which are particles with at least two dimensions between approximately 1 and 100 nm
- May possess unique chemical, biological and physical properties compared with larger particles of the same material
- Nanosilver and metal oxides: two common types of nanomaterials
- Increasingly being used in a wide range of household, cosmetic and personal use, scientific, environmental, industrial and medicinal applications
- Regulation under TSCA, CERCLA, SDWA, RCRA, FIFRA, FFDCA, CAA, states

Microplastics

- Plastics < 5 mm, including nanoplastics which are < 0.1 μm
- Originate from the fragmentation of large plastic litter or from direct environmental emission
- Primary concern is with aquatic ecosystems
 - Potential impacts in terrestrial ecosystems remain largely unexplored despite numerous reported effects on marine and other organisms
- Plastics regulation gaining traction globally
- Plastic pellets (nurdles) currently subject of litigation and enforcement
- Single-use plastics bans increasing at the state level

Other Considerations for Emerging Contaminants

- Recycling and Disposal of Products Containing PFAS and other Emerging Contaminants
 - Tip: Know what's in your supply chain, your products, and your waste stream
 - Tip: Know what can, and cannot, be recycled in your jurisdiction
- PFAS and other chemicals in microplastics and nanomaterials getting into waterbodies
- Don't forget about byproducts
 - Example: PFAS contamination of pesticides due to fluorination of HDPE containers
 - EPA recently confirmed in an open letter that creation of PFAS in this fashion is subject to TSCA

What's Next?

Regulation

- Prepare for increases in federal regulation of PFAS and other emerging contaminants in 2022-2024
- Continued state regulation in absence of federal regulation
- More activity under TSCA, including re-evaluation of existing risk assessments and regulatory action and increased reporting
- Tension between emphasis on sound science and desire to move quickly to regulate
- PFAS Regulation by group? Class?

Litigation and Enforcement

- Possible increase in litigation/enforcement as monitoring increases and enforceable standards are set and/or lowered
- Possible increase in litigation/enforcement as data collected under TSCA, TRI, others
- Increased evaluation of PFAS and other emerging contaminants at cleanup sites, including possible reopeners on five-year reviews and expansion of existing RI/FS investigations and remedies
- Litigation regarding PFAS in consumer products and packaging

Coronavirus COVID-19 Resources

We have formed a multidisciplinary **Coronavirus/COVID-19 Task Force** to help guide clients through the broad scope of legal issues brought on by this public health challenge.

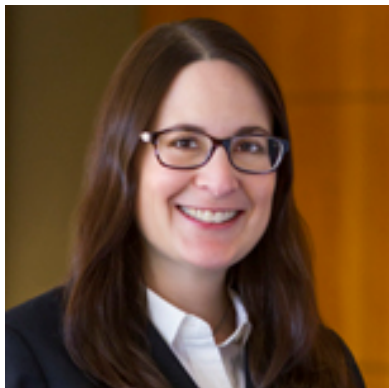
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To help keep you on top of developments as they unfold, we also have launched a resource page on our website at www.morganlewis.com/topics/coronavirus-covid-19

If you would like to receive a daily digest of all new updates to the page, please visit the resource page to [subscribe](#) using the purple “Stay Up to Date” button.



Biography



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Stephanie R. Feingold represents clients in litigation and dispute resolution with a focus on environmental issues, and provides environmental and regulatory counseling. Her work spans investigations, cost recovery and contribution actions, and enforcement actions brought by and against environmental agencies and government authorities, as well as private party actions, under both federal and state environmental laws. She defends major corporations and businesses in toxic tort actions, commercial litigation, and product liability litigation. Stephanie also counsels clients in matters involving drinking water contamination and emerging contaminants, including per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane, and compliance with regulations such as FIFRA and TSCA. Stephanie also works with potentially responsible parties (PRPs) in connection with contaminated sites, including working closely with consultants and experts, and negotiating with regulatory agencies.

Biography



Jeremy Esterkin

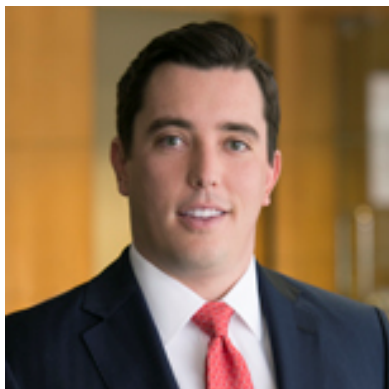
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Jeremy Esterkin provides counsel to utility, energy, manufacturing, and other clients regarding environmental litigation and regulatory compliance matters. He has experience in substantive areas of US federal and state environmental law including the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the National Environmental Policy Act (NEPA), the Hazardous Substance Account Act (HSAA), and the California Environmental Quality Act (CEQA), as well as common law causes of action arising from environmental damage and chemical exposure. Jeremy also advises clients on crisis communications to minimize litigation risk and reputational harm.

Biography



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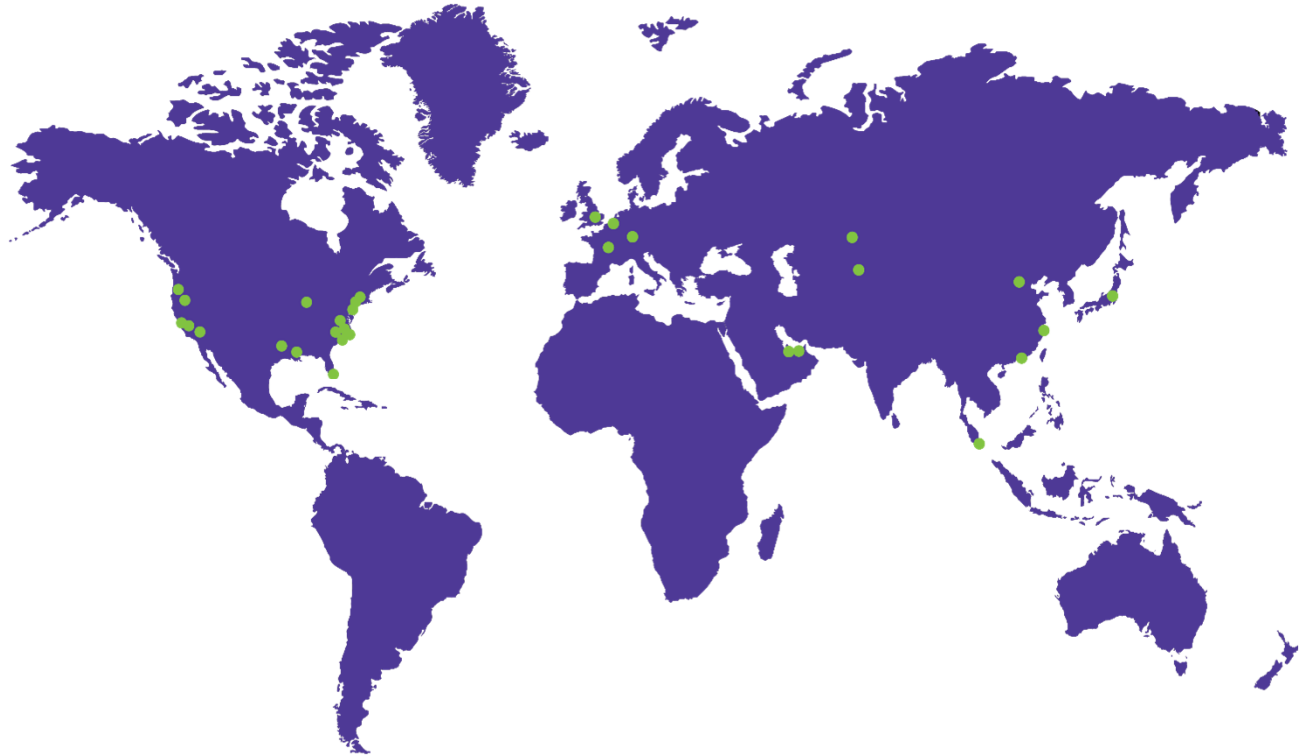
Drew C. Jordan represents corporate and individual clients in a variety of complex commercial and environmental matters before US federal and state courts, including appellate courts. Drew has experience representing clients in matters involving consumer class action and multi-district litigation, fraud and RICO litigation, business and corporate disputes, state and federal government investigations, mass toxic torts, and regulatory and enforcement issues. Drew has extensive experience representing clients in matters involving cost recovery and contribution under CERCLA and state environmental laws, drinking water contamination, state government investigations, and environmental regulatory and enforcement issues, including regulatory counseling in connection with TSCA. Drew works with US and international clients in the retail and ecommerce, energy, utility pharmaceutical, real estate, manufacturing, and financial services industries. Drew is a member of the firm's war plants and emerging contaminants teams.

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