PFAS pollution prevention and management update

Progress toward protecting human health, the environment, and Minnesota's economy

MINNESOTA POLLUTION CONTROL AGENCY

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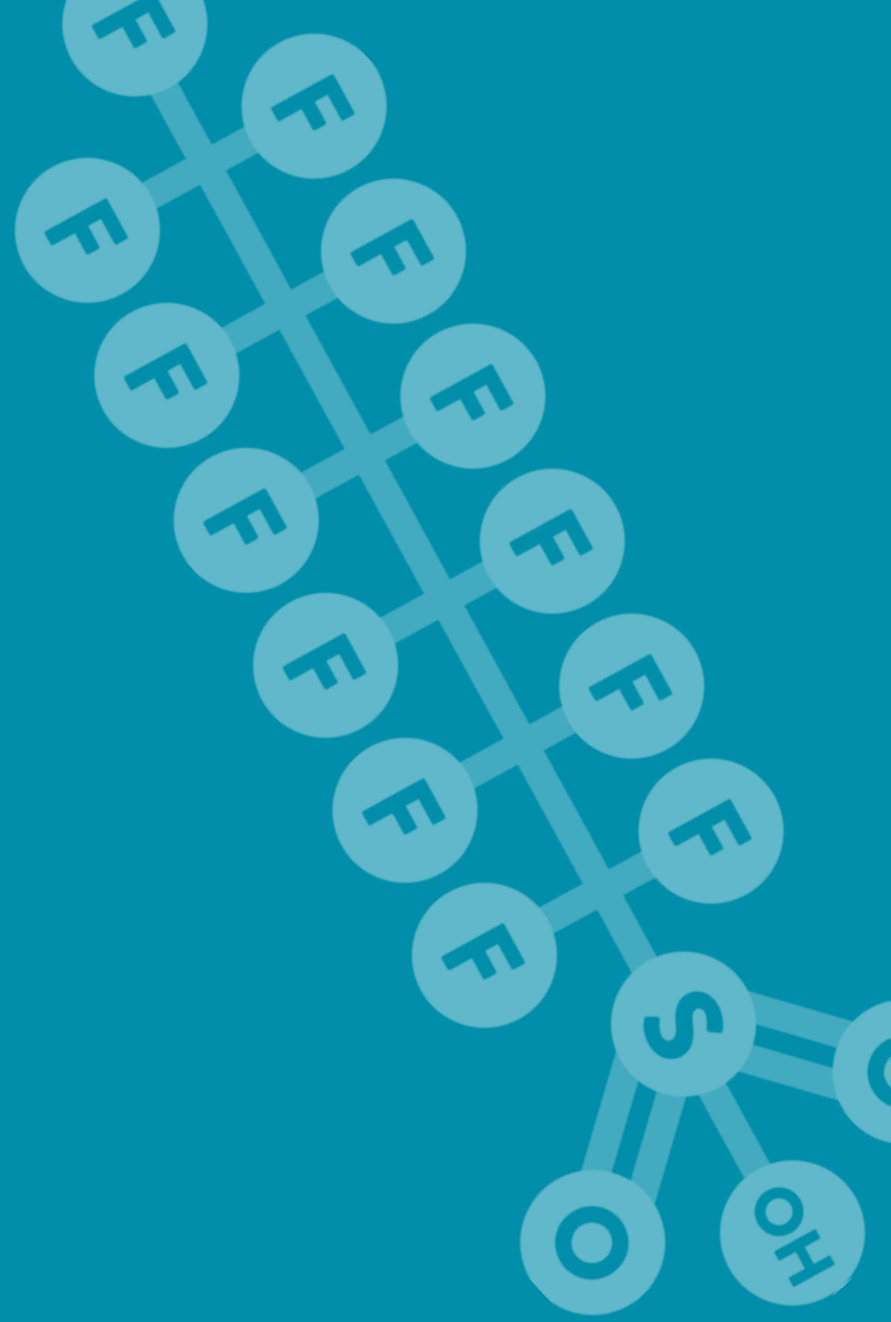
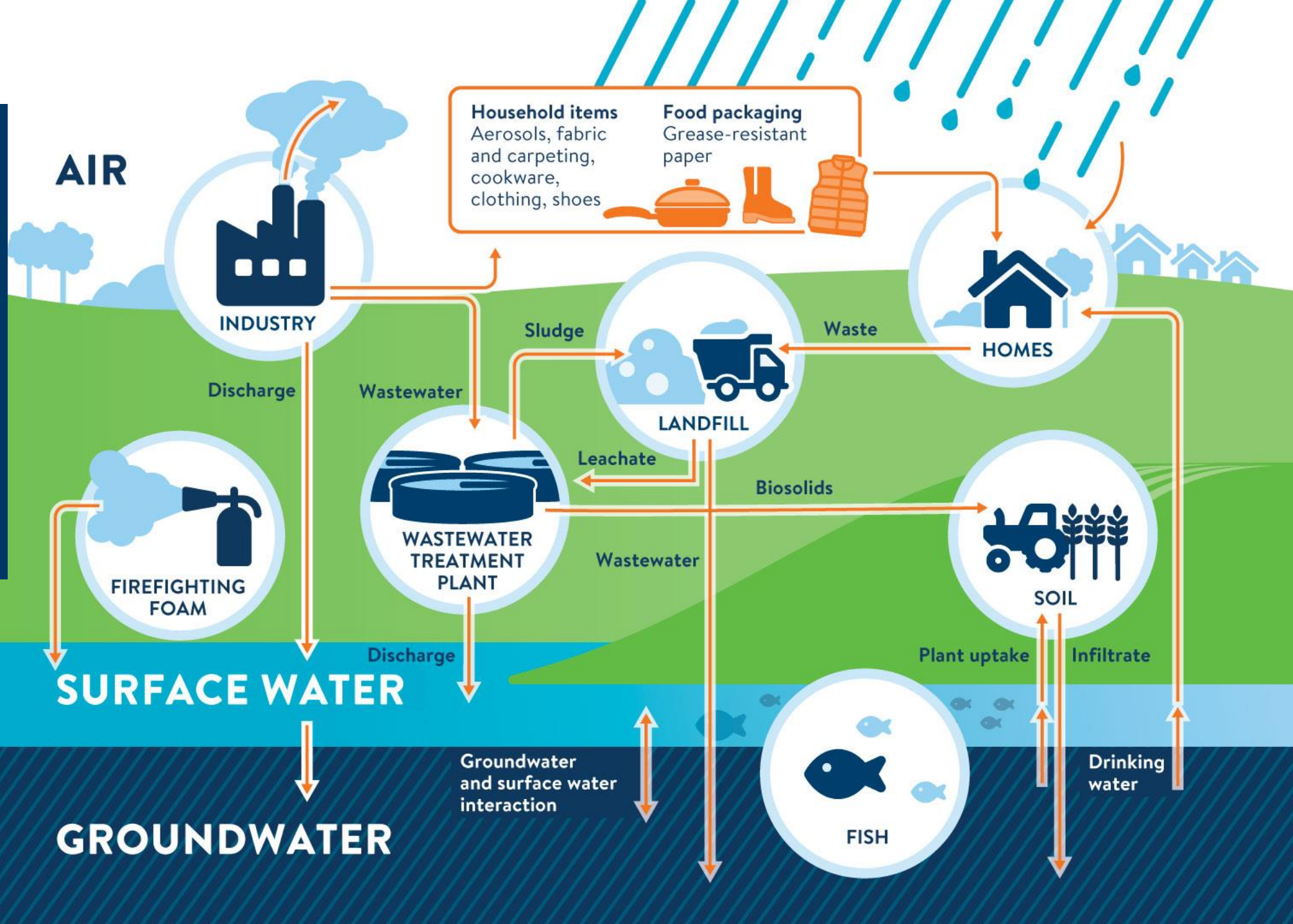
What are per – and polyfluoroalkyl substances (PFAS)?

- Class of human-made fluorinated organic chemicals containing at least one fully fluorinated carbon atom.
- Extremely stable and do not break down in the environment, earning “forever chemical” nickname
- Widely used for decades and commonly found in consumer products.
- Linked to an elevated risk of various negative health outcomes.



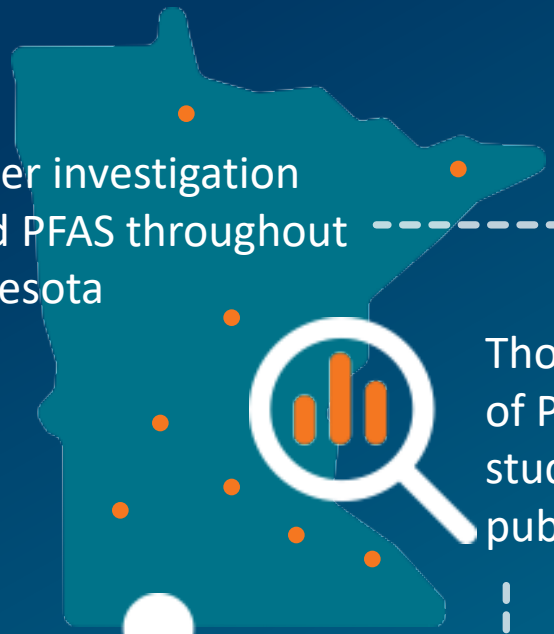
How does PFAS pollution enter and move through the environment?



Minnesota's history with PFAS pollution

PFAS reported in disposal sites and discovered in nearby drinking water in East Metro

Further investigation found PFAS throughout Minnesota



Thousands of PFAS studies published

Health-based guidance evolves to reflect new science

Wastewater

Air

Solid Waste

Fish and wildlife

Legacy and emerging PFAS found at concentrations of concern in multiple places around Minnesota

Known PFAS exceedances in Minnesota

- Began in East Metro but a statewide problem
- At least 20 community water systems require treatment
- Groundwater at over 100 closed landfills
- Thousands of private wells
- Statewide and waterbody-specific fish consumption guidance from the Minnesota Department of Health

Estimated drinking water costs

Minnesota's costs for protecting drinking water from PFAS at new federal standards **will exceed $1 billion**, including treatment, investigation, and remedial actions.

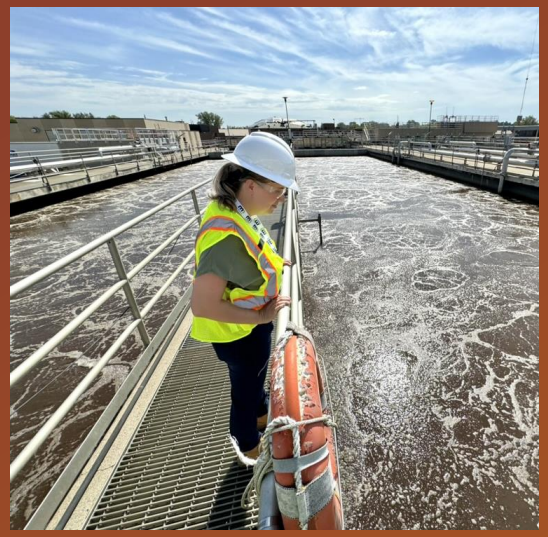
Estimated wastewater costs

Removing and destroying PFAS from wastewater and biosolids in Minnesota would cost between **$11 billion - $25 billion** over 20 years.

Statewide strategic response

- **Comprehensive plan launched in February 2021**
- **Interagency effort**
  - Department of Agriculture
  - Department of Health
  - Department of Natural Resources
  - Pollution Control Agency

Statewide strategic response actions



1

Prevent

PFAS pollution wherever possible

2

Manage

PFAS pollution when prevention is not feasible, or pollution has already occurred

3

Clean up

PFAS pollution at contaminated sites

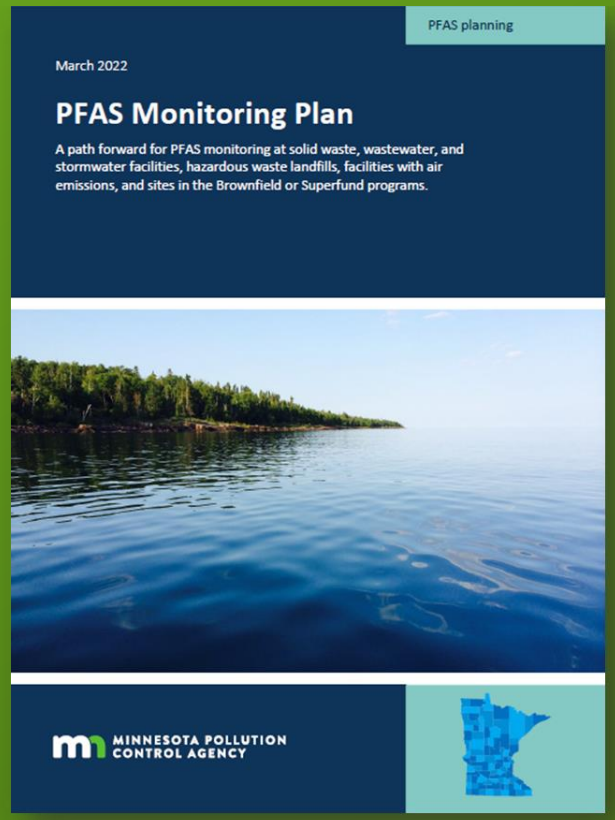
PFAS clean up examples

- **East Metro drinking water protection**
  - Drinking water testing, treatment infrastructure for community water supplies, treatment at over 1,500 homes for private well owners
  - Contamination source: Production, storage, and disposal of PFAS and products containing PFAS

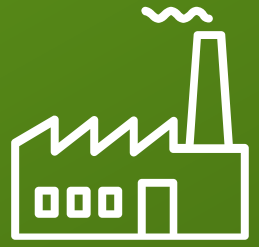
Drinking water planning and design grant

- **$25M appropriated in 2023**
- **14 grant projects funded, approximately $20.5 million awarded**
  - Three applications are still being processed
- **$4.5M used to complete site investigations near community water systems**
  - 19 communities have investigations underway
  - 7 more systems were referred to MPCA late 2025
  - Funding has fallen behind site investigation needs

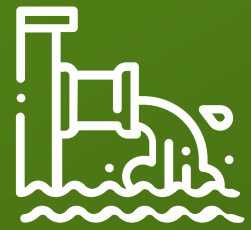
PFAS management: MPCA PFAS Monitoring Plan



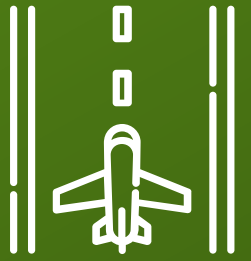
Solid waste facilities



Industrial facilities



Municipal wastewater treatment facilities



Regional airports in Greater Minnesota

PFAS monitoring plan outcomes

Key results

- Certain industry sectors in MN are of particular concern for PFAS release
- PFAS were found at all airports, WWTPs, and currently or historically unlined landfills
- Quality PFAS data collection is challenging in some media, like industrial wastewater

Next steps

1. Source reduction and management plans
2. Targeted investigations at sites with drinking water risks
3. Evaluation of remaining data
4. Development of permitting strategies across media

Source ID and reduction, treatment grants

- **Approximately $4.2M appropriated in 2023**
- **PFAS source identification and reduction grants**
  - 42 projects funded
  - Projects include sampling, Pollutant Management Plan development, AFFF replacement
- **Solid waste/wastewater PFAS treatment grants**
  - 9 projects funded
  - Projects include research into PFAS treatment and destruction technologies – pyrolysis, foam fractionation, supercritical water oxidation (SCWO), reverse osmosis, oxidation, and/or biological treatment

MPCA

PFAS management: Permitting

- **National Pollutant Discharge Elimination System (NPDES) permits**
  - One industrial wastewater and stormwater permit with monitoring requirements and effluent limits
  - Six municipal wastewater facility permits with monitoring requirements, one with effluent limit for PFOS
  - Nine industrial wastewater facility permits with monitoring requirements
  - Industrial Stormwater General Permit with monitoring requirements
- **Air permits: One facility has one-time stack test requirements (fulfilled)**
- **Solid waste: 18 facilities with monitoring requirements, intervention limits**

PFAS management: Biosolids strategy

- About 20% of biosolids or sludge from wastewater treatment facilities (WWTF) are applied to farmland
- Valuable as fertilizer
- If contaminated with PFAS, potential risk to soil and food
- WWTFs are now monitoring biosolids for PFAS before land applications
- Biosolids with certain PFAS over established thresholds are not applied to land
- Most biosolids are testing extremely low
- None have tested over the limit for land application

PFAS pollution prevention

- PFAS Blueprint priority
- PFAS management and clean up cannot keep up
- Phasing out nonessential PFAS use as best path forward

Why remove nonessential PFAS from products?

- Protect human health
- Protect the environment
- Protect the economy and taxpayers from clean-up costs
- Protect other industries and communities downstream of PFAS use

Cost to buy PFAS to make consumer products

$50 - $1000 per pound

Cost to remove and destroy PFAS from municipal wastewater

$2.7 million - $18 million per pound

Minnesota's PFAS pollution prevention laws

For intentionally added uses of PFAS in products

Amara's Law

July 1, 2020	Jan. 1, 2024	Jan. 1, 2025	July 1, 2026	Jan. 1, 2032
Use of PFAS in firefighting foam for training is prohibited, with exceptions	PFAS in firefighting foam is prohibited, with exceptions PFAS in food packaging prohibited	PFAS are prohibited in 11 product categories	PFAS reporting due	All other use in products prohibited, unless determined to be a currently unavoidable use

Amara's Law

- Comprehensive PFAS pollution prevention law.
- Reduces new PFAS pollution by phasing out intentional, nonessential PFAS use in products sold or distributed in Minnesota.
- Built-in flexibility and pathways for exemption for manufacturers.
- Not a rigid, blanket ban on all PFAS use.

2025 prohibitions

January 1, 2025	July 1, 2026	January 1, 2032
Prohibition: Intentionally added PFAS in 11 new product categories, with exceptions	Reporting requirement: Intentionally added PFAS in products reporting due	Prohibition: Intentionally added PFAS prohibited in all new products unless determined to be a “currently unavoidable use”

What changed in 2025?

11 categories of products for sale in Minnesota must with be made without PFAS, with exceptions for internal components, electronic components, and vehicles for children.

Carpets and rugs

Cookware

Fabric treatments

Ski wax

Children's products

Cosmetics

Menstruation products

Upholstered furniture

Cleaning products

Dental floss

Textile furnishings

Early successes

- Helpful collaboration with manufacturers and retailers
- Widespread availability of products made without PFAS
- Seamless transition for most consumers
- Most food packaging tested has been made without PFAS
- For 2025 prohibitions, following up on tips of alleged product violations and preparing to start product testing

PFAS in product reporting

January 1, 2025	July 1, 2026	January 1, 2032
Prohibition: Intentionally added PFAS in 11 new product categories, with exceptions	**Reporting requirement: Intentionally added PFAS in products reporting due**	Prohibition: Intentionally added PFAS prohibited in all new products unless determined to be a “currently unavoidable use”

PFAS in product reporting: Rationale

- Foundational for reducing nonessential PFAS in products
- Provides transparency to consumers and businesses
- Helps businesses understand where PFAS are in preparation for 2032
- Aids policy development

PFAS in product reporting: Information collected

- **Four items that need to be reported have been in statute for three years:**
  - What is the product?
  - What type(s) of PFAS are in the product?
  - How much PFAS are in the product?
  - Why are PFAS in the product?

PFAS in product reporting: Flexibility set in reporting and fees rule

- Strong public engagement in rulemaking informed final rules
- Flexible reporting options:
  - Grouping of similar products
  - A group of manufacturers may report together
  - Ranges of PFAS concentrations are allowed instead of exact amounts
  - Waiver, extension and trade secret requests
- One-time flat fee of $800 per manufacturer to cover costs
- Reporting due date extended to July 1, 2026

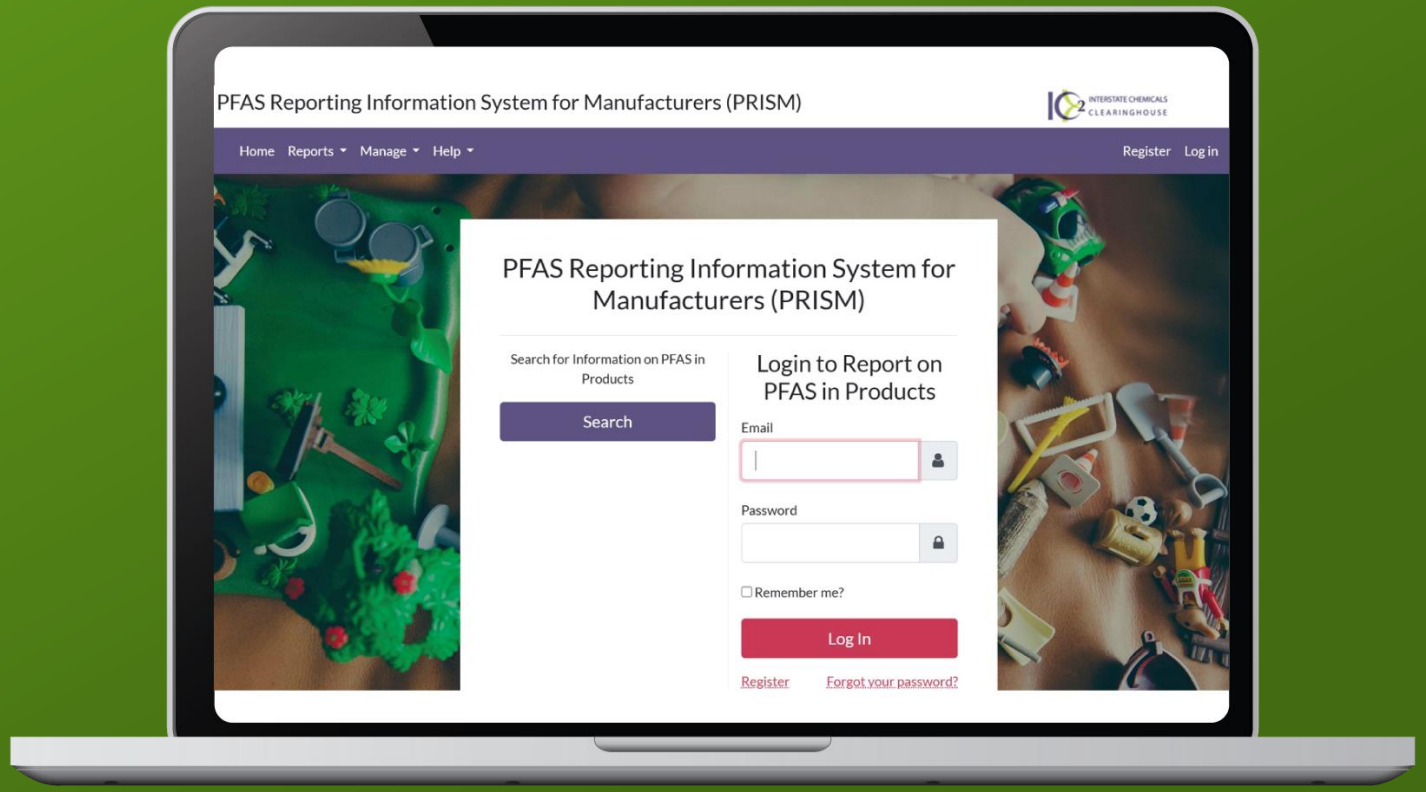
PFAS in product reporting: Protecting trade secrets

- Trade secrets are protected
- High priority for manufacturers and the MPCA
- Trade secret status can be requested at time of report
- Similar to other routine regulatory reporting completed by manufacturers

PFAS in product reporting:
PFAS reporting system

- PFAS Reporting and Information System for Manufacturers (PRISM)
- Built on the High Priority Chemicals Data System
- Launched in January 2026
- Over 200 companies registered in three weeks
- Version 1.1 expected in February 2026 incorporating improvements requested by manufacturers
- First two reports have been submitted
- Could satisfy reporting requirements from other states

PFAS in product reporting: Examples from PRISM



PFAS in product reporting: Examples from PRISM

1	Brand Name	Product Model	Product Code Type	Other Code Type Name	Product Code	Component	PFAS Identifier Type	Other PFAS Identifier Type Name	PFAS Name	PFAS Function	PFAS Range
2	Xtreme Outdoors	ShredPants	HTS		6203.43.11	Fabric	CASRN		PFOA	Barrier (Sealant)	1,000 ppm to <10,000 ppm (1 %)
3	Xtreme Outdoors	ShredPants	HTS		6203.43.11	Fabric	CASRN		PFOA	Waterproofing agent	1,000 ppm to <10,000 ppm (1 %)
4	Xtreme Outdoors	ShredPants	HTS		6203.43.11	Fabric	CASRN		PFOA	Anti-Stain agent	1,000 ppm to <10,000 ppm (1 %)

1	Brand Name	Product Model	Product Code Type	Other Code Type Name	Product Code	Component	PFAS Identifier Type	Other PFAS Identifier Type Name	PFAS Name	PFAS Function	PFAS Range
2	USA Phones	FunPhone 14	SKU		123456	screen protector	TOF		TOF	UV stabilizer	100 ppm to <1,000 ppm (0.
3	USA Phones	FunPhone 14	SKU		123456	wire coating	CASRN		PTFE	Insulator	90 to 100 %
4	USA Phones	FunPhone 14	SKU		123456	battery	CASRN		PVDF	Binder	1,000 ppm to <10,000 ppm
5	USA Phones	FunPhone 14	SKU		123456	battery	CASRN		LiTFSi	Ion exchange agent	1,000 ppm to <10,000 ppm
6	USA Phones	FunPhone 14	SKU		123456	battery	CASRN		PTFE	binder	150,000 ppm to <300,000 p

Sample data from MPCA's supplemental guidance document for using PRISM.

Currently unavoidable use rulemaking

January 1, 2025	July 1, 2026	January 1, 2032
Prohibition: Intentionally added PFAS in 11 new product categories, with exceptions	Reporting requirement: Intentionally added PFAS in products reporting due	**Prohibition:** **Intentionally added PFAS prohibited in all new products unless determined to be a “currently unavoidable use”**

Goals of the CUU rule

- **Transparency for both the public** tracking the MPCA's CUU determinations **and for manufacturers** requesting a CUU determination
- **Specificity on what needs to be included** in a request for a CUU determination, **and how** the commissioner will make determinations
- **Opportunities for engagement for both the public** that may want to weigh in on specific CUU determinations, **and manufacturers** to support their request for a CUU determination

Eligibility

- Need to meet the statutory definition of “currently unavoidable use”
  - "Currently unavoidable use" means a use of PFAS that the commissioner has determined by rule under this section to be **essential for health, safety, or the functioning of society** and for which **alternatives** are not **reasonably available**.
- Key terms that we must define in our proposed rule:
  - “essential for health, safety, or the functioning of society”
  - “alternatives”
  - “reasonably available”

Rule process overview

Next steps on Amara's Law implementation

- Public input needed on CUU rule
- Rulemaking webinar on Feb. 26 to introduce draft rule concepts
- 30-day feedback period on rule concepts
- Spring and summer 2026: Revising rule concepts, assisting manufacturers reporting, reviewing reports
- Fall 2026: Share updated rule concepts
- Winter 2026-2027: Further updates to rule concepts will be shared
- 2027: Incorporate feedback received into proposed rule and Statement of Need and Reasonableness

Thank you!

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