



# Toxic Release Inventory (TRI) Reporting & PFAS

What you need to know...

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COMMITMENT & INTEGRITY DRIVE RESULTS





# Agenda

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- Overview of PFAS compounds
- Where do PFAS come from?
- Overview of the Toxics Release Inventory (TRI) Program
- Reporting of PFAS in future TRI Reports
- Proposed NSRP Panel Project







# PFAS has been a **HOT TOPIC**



## NEWS

### Panel of scientists recommends stronger guidelines on PFAS

A panel of scientists has recommended that all forms of PFAS used in waterproofing, nonstick cookware, firefighting foams and other heat- and stain-resistant uses be classified collectively as problematic and restricted in uses.

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## SCIENCE

### Scientific Basis for Managing PFAS as a Chemical Class

This commentary presents a scientific basis for managing as one chemical class the thousands of chemicals known as PFAS.

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## POLICY

### Will Congress finally address toxic 'forever chemicals'?

The haunting folk song refrain, "When will we ever learn?" could apply well to the reckless manufacture of a class of harmful chemicals called PFAS.

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## Per- and Polyfluoroalkyl Substances (PFAS)

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### PFAS Action Plan: Program Update

EPA has made significant progress under the [PFAS Action Plan](#) to help states and local communities address per- and polyfluoroalkyl substances (PFAS) and protect public health.

[Read the news release.](#)

[Learn more about per- and polyfluoroalkyl substances \(PFAS\).](#)

"We are moving forward with several important actions, including the maximum contaminant level process, that will help affected communities better monitor, detect, and address PFAS."

-- EPA Administrator,  
Andrew Wheeler

## Basic Information

- [What are PFAS?](#)
- [Why are PFAS important?](#)
- [How people are exposed?](#)
- [Are there health effects?](#)
- [What is the difference between PFOA, PFOS and GenX?](#)

## EPA Actions to Address PFAS

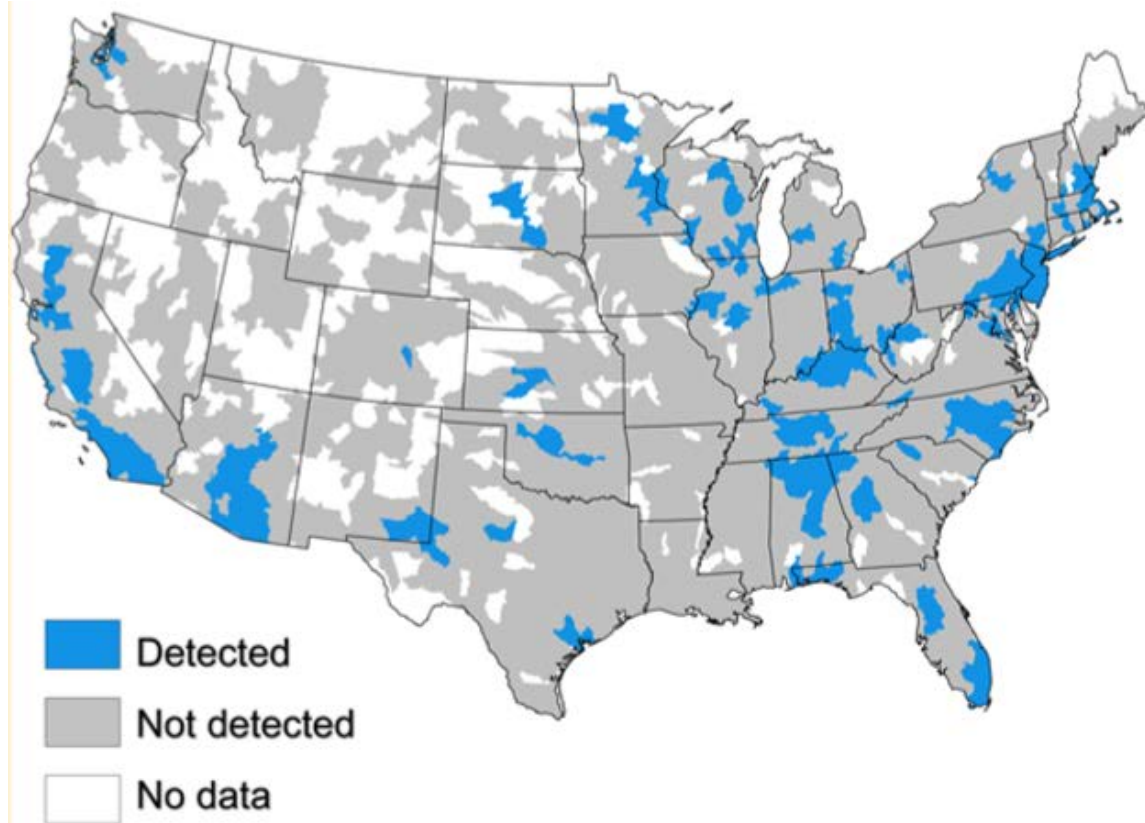
- [EPA actions](#)
- [National leadership summit and engagement](#)
- [EPA research](#)
- [Laws and regulations](#)
- [Communication and outreach](#)

## Tools and Resources

- [EPA data and tools](#)
- [State resources](#)
- [Site-specific resources](#)
- [Drinking water treatment](#)
- [ATSDR PFAS toxicological profile key messages \(PDF\)](#)

# What is the magnitude of the problem?

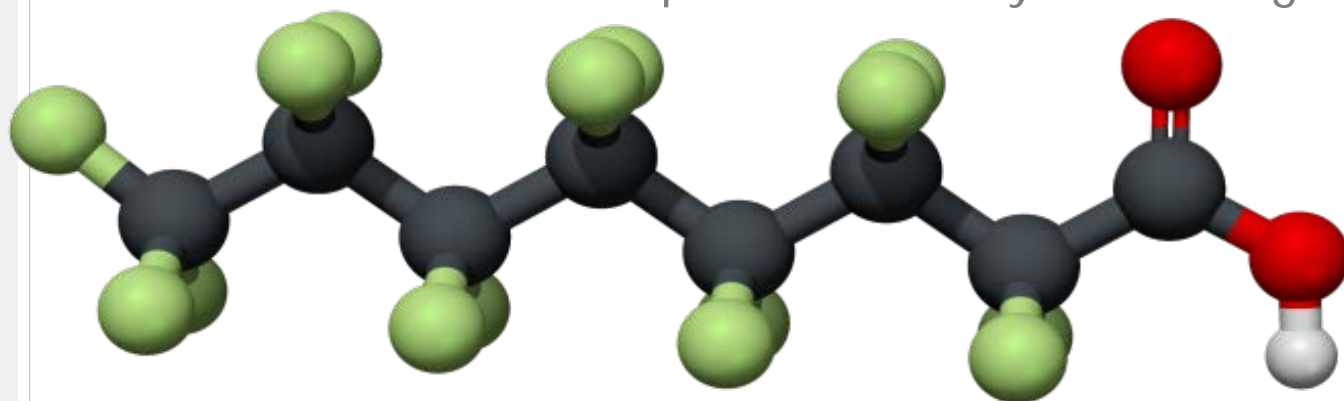
- PFAS are EVERYWHERE!
- Drinking water supplies of >6 million people exceeds EPA health advisory of 70 ppt for PFOA+PFOS
- Detectable serum concentrations in nearly all individuals (97%)
- Detected in whales, polar bears, sea birds...





# What are PFAS?

- Per- and Polyfluorinated Alkyl Substances
- Known as “forever compounds” as they do not degrade

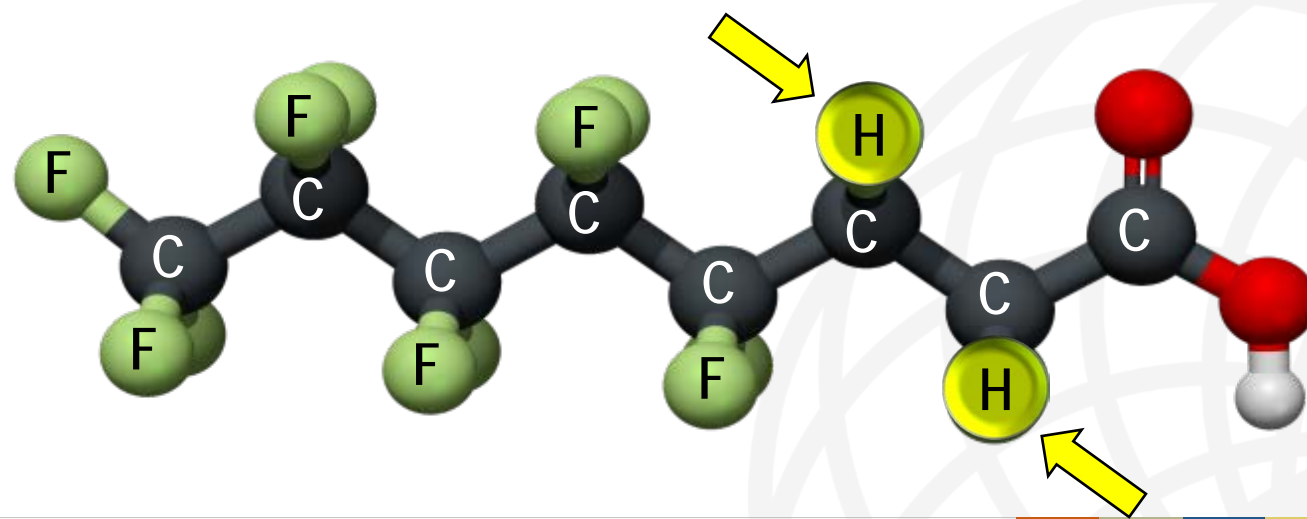


## Perfluorinated

All hydrogen atoms attached to carbons are replaced by fluorine

## Polyfluorinated

At least one (but not all) hydrogen atoms attached to carbons are replaced by fluorine



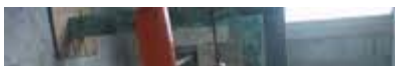




# Where do PFAS come from?

## Raw Materials & Industrial Chemicals

Metal plating & etching  
Wire manufacturing  
Industrial surfactants, resins, plastics  
Photolithography, Semiconductors



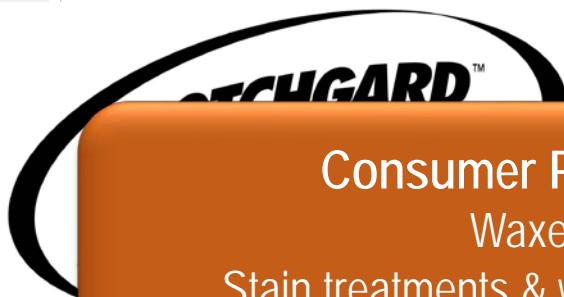
## Firefighting Foams

(Aqueous Film Forming Foams or AFFF)



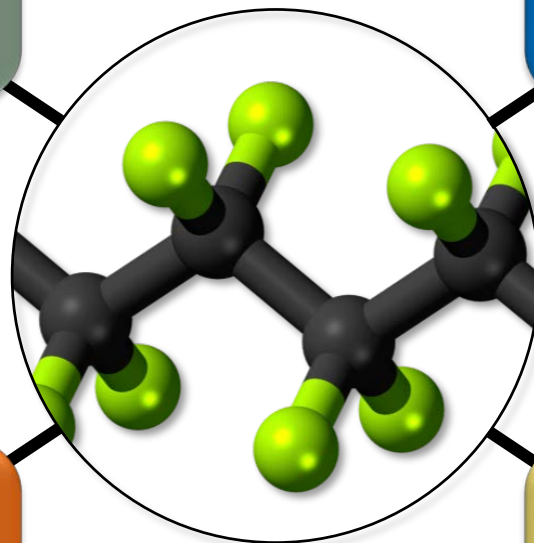
## Consumer Products

Waxes  
Stain treatments & water repellants  
Food packaging & paper treatments



## Waste Products

Landfill leachate  
Wastewater  
Biosolids





# Where might my facility find PFAS\*?

- AFFF fire fighting foam
- Surface coatings, surfactants, cleaners
- Lubricants
- Wastewaters
- Remediation wastes
  
- News of note:
  - Some companies voluntarily no longer produce/use PFAS domestically
  - Careful attention should be given to imported products
  - Rules being promulgated to prohibit import of products containing PFAS chemicals



# Where might PFAS data be found?

- Safety Data Sheets
  - Look for “fluoro” compounds
  - May be listed as “fluorinated surfactant(s)” or “organic fluorosulfonate”
  - May not list PFAS or PFAS at all
  - May be reported as part of proprietary data
- Consult suppliers for data
  - 40 CFR 372.45 requires suppliers of mixtures or trade name products to covered facilities to provide written notification which identifies TRI chemical(s) by name and CAS number (to be sent with first shipment of every year)
- Via laboratory testing
  - Quantification complex, difficult, costly
  - Currently only 3 EPA testing methods (covers 29 PFAS chemicals)
  - Possible contamination issues (as PFAS contamination already exists at laboratory)





# What do PFAS have to do with TRI?



**PFAS MUST BE  
INCLUDED  
IN 2020 TRI  
REPORTING!**



# TRI Data is a matter of public record!

## TRI Data Uses

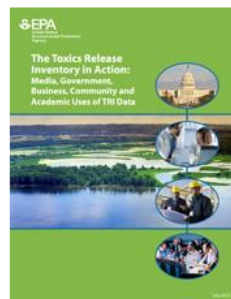
On this page:

- [What can you do with the TRI data?](#)
- [Examples of TRI data users](#)

## What Can You Do With the TRI?

For nearly 30 years, individuals and organizations have been relying on the Toxics Release Inventory as a powerful tool for environmental protection. Have you been wondering what you can do with TRI data?

The table below includes recent examples of how people have been putting TRI information to work.



[View the full report, TRI in Action](#)

TRI User Type	How TRI Can Be Used	Data Use Examples
Academia	Research public exposure to toxic materials; assess environmental justice concerns	<ul style="list-style-type: none"><li>• <a href="#">Corporate Environmentalism and Environmental Innovation</a></li></ul>
Industry	Track progress toward corporate sustainability goals; identify opportunities for cost savings	<ul style="list-style-type: none"><li>• <a href="#">More than 40 Sites Released Hazardous Pollutants Because of Hurricane Harvey</a></li><li>• <a href="#">Spotlight on U.S. EPA Region 5's Food Manufacturing and Processing Industry</a></li></ul>
Media	Monitor trends in toxic chemical releases in communities nationwide; investigate corporate environmental performance	<ul style="list-style-type: none"><li>• <a href="#">Floods are Getting Worse and 2500 Chemical Sites Lie in the Water's Path</a></li><li>• <a href="#">P2 Impact: How a Competitor's Data can Help Your Company Cut Pollution</a></li></ul>

TRI User Type	How TRI Can Be Used	Data Use Examples
Citizen/Communities/NGOs	Conduct analyses and risk assessments; identify potential public health concerns	<ul style="list-style-type: none"><li>• <a href="#">Community/industry partnerships in Minneapolis, Minnesota (video)</a></li><li>• <a href="#">Duwamish Valley Cumulative Health Impacts Analysis: Seattle, Washington</a></li></ul>
Government	Prioritize environmental targets; evaluate effectiveness of environmental policies	<ul style="list-style-type: none"><li>• <a href="#">TRI P2 Spotlight Series</a></li><li>• <a href="#">Impact of P2 on TRI Toxic Releases from Manufacturing</a></li></ul>

**No. of TRI Forms Publicly Available**

Huntington Ingalls  
~457 forms

Electric Boat  
~166 forms



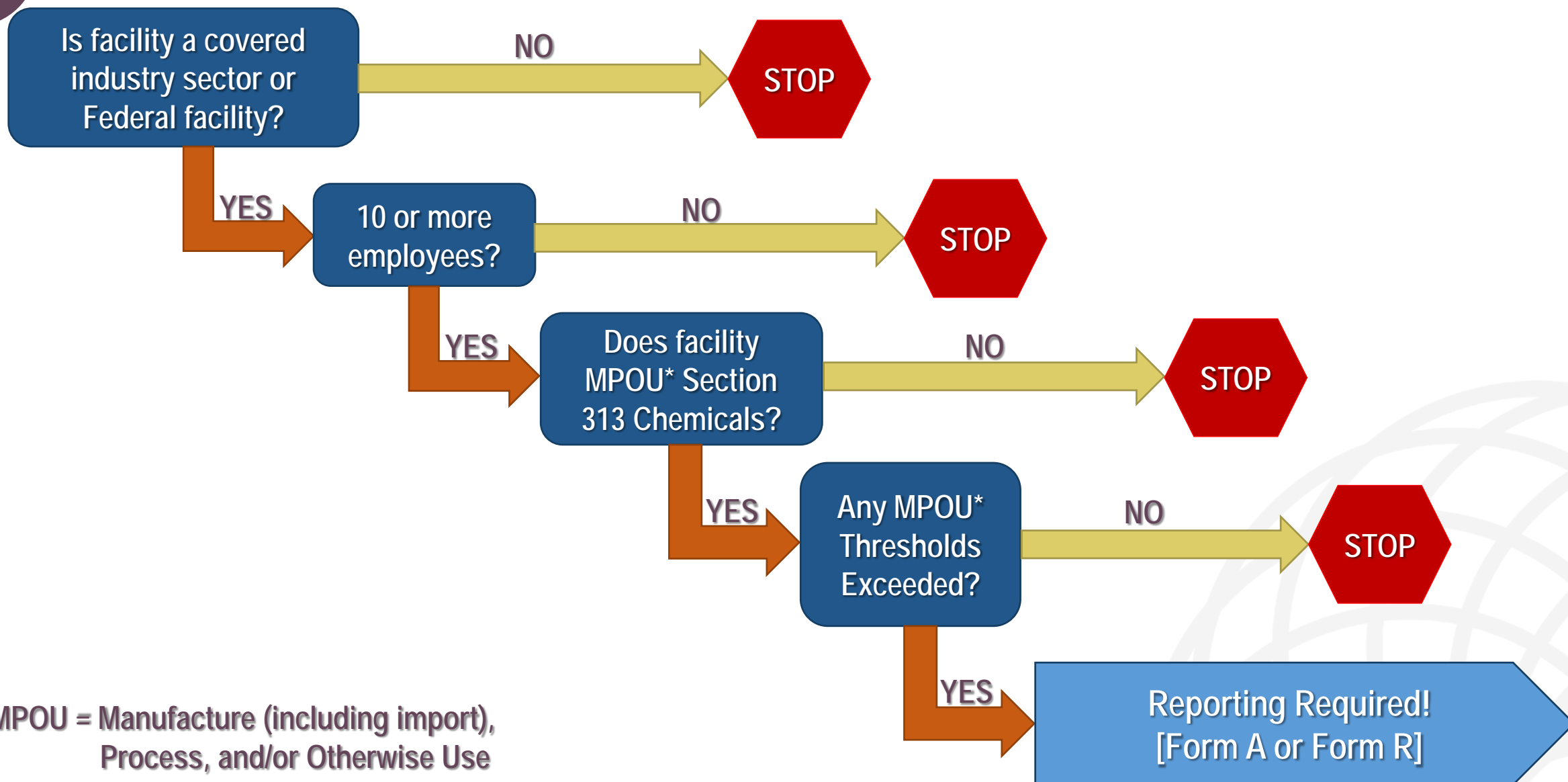
# What is TRI?

- TRI stands for Toxic Release Inventory
  - Promulgated under Section 313 of EPCRA in 1986
  - Tracks management of certain toxic chemicals that may pose threat to human health and environment
  - Provides data to public on releases and waste management practices from certain facilities
    - Covers on and off-site releases
    - Covers 767 individual chemicals and 33 chemical categories
    - **WILL COVER 172 PFAS CHEMICALS ADDED FOR REPORTING YEAR 2020**
  - More than 21,000 reports submitted annually
- Who is required to report?
  - Certain industrial sectors including manufacturing, metal mining, coal mining, electrical utilities, TSDF facilities, solvent recovery services, chemical distributors, and petroleum bulk terminals
  - Additionally, the following criteria must also be met:
    - At least 10 employees
    - Exceed one or more determination thresholds





# Is my facility subject to TRI reporting requirements?





# What is TRI (cont.)?

- What are the determination thresholds for TRI?
  - Must be completed for each reporting year
  - Carefully consider exemptions (article, de minimis, etc.) when determining MPOU's
  - Does your facility do any combination of the following?

## Manufacture

- > 25,000 pounds of any listed chemical
- Produced or imported
  - ⑩ For on-site use and/or processing
  - ⑩ For sales or distribution
  - ⑩ As a byproduct
  - ⑩ As an impurity

## Process

- > 25,000 pounds of any listed chemicals
- As a reactant
- As a formulation component
- As an article component, repackaging, as an impurity, or recycling

## Otherwise Use

- > 10,000 lbs if any listed chemical
- Any activity that is not manufacturing or processing



# There are some important caveats\*!

- There are special determination thresholds for Persistent Bioaccumulative Toxic (PBT) Chemicals
  - PBTs subject to lower reporting thresholds →
  - De minimis **does not** apply
  - 16 individual chemicals; 5 chemical categories
- Specific criteria applicable to certain other chemicals/chemical groups
  - PFAS
    - Includes 172 individual PFAS chemicals
    - Ability to add new PFAS chemicals to list automatically incorporated into implementation
    - De minimis for PFOA is 0.1%
    - De minimis for all other PFAS are 1%
  - Also includes Lead/Lead Compounds, Ammonia, Qualified Alloys, and several others

- **100 lb/yr (manufactured, processed, or otherwise used)**
  - Aldrin
  - Hexabromocyclododecane
  - Lead\*
  - Lead Cmpds.
  - Methoxychlor
  - Pendimethalin
  - Polycyclic Aromatic Cmpds.
  - Tetrabromobisphenol A
  - Trifluralin
- **10 lb/yr (manufactured, processed, or otherwise used)**
  - Chlordane
  - Heptachlor
  - Mercury
  - Toxaphene
  - Isodrin
  - PCBs
  - Benzo(g,h,i)perylene
  - Hexachlorobenzene
  - Mercury compounds
  - Octachlorostyrene
  - Pentachlorobenzene
- **0.1 g/yr (manufactured, processed, or otherwise used)**
  - Dioxin and dioxin-like compounds

\* Excluding lead in stainless steel, brass, or bronze alloys

PBT Thresholds

Individual PFAS Threshold

100 lb/yr (manufactured, processed, or otherwise used)

\* List of caveats is not inclusive.





# Preparing a TRI Report

- For each chemical or chemical category for which reporting is required, the following information must be reported:
  - On-site releases to:
    - Air – fugitive and/or point source emissions
    - Water – discharges to streams, rivers, etc. including run-off
    - Land – landfills, underground injection wells, surface impoundments, etc.
    - Recycling, Treatment, and Energy Recovery
  - Off-site releases to:
    - POTWs
    - Landfills, surface impoundments, and underground injection
    - Recycling, Treatment, and Energy Recovery



**NOTE: Improper use of article exemption, de minimis and/or straddling calculations can mean the difference between having to report and not having to report!**



# Current EPA TRI Guidance for PFAS Reporting

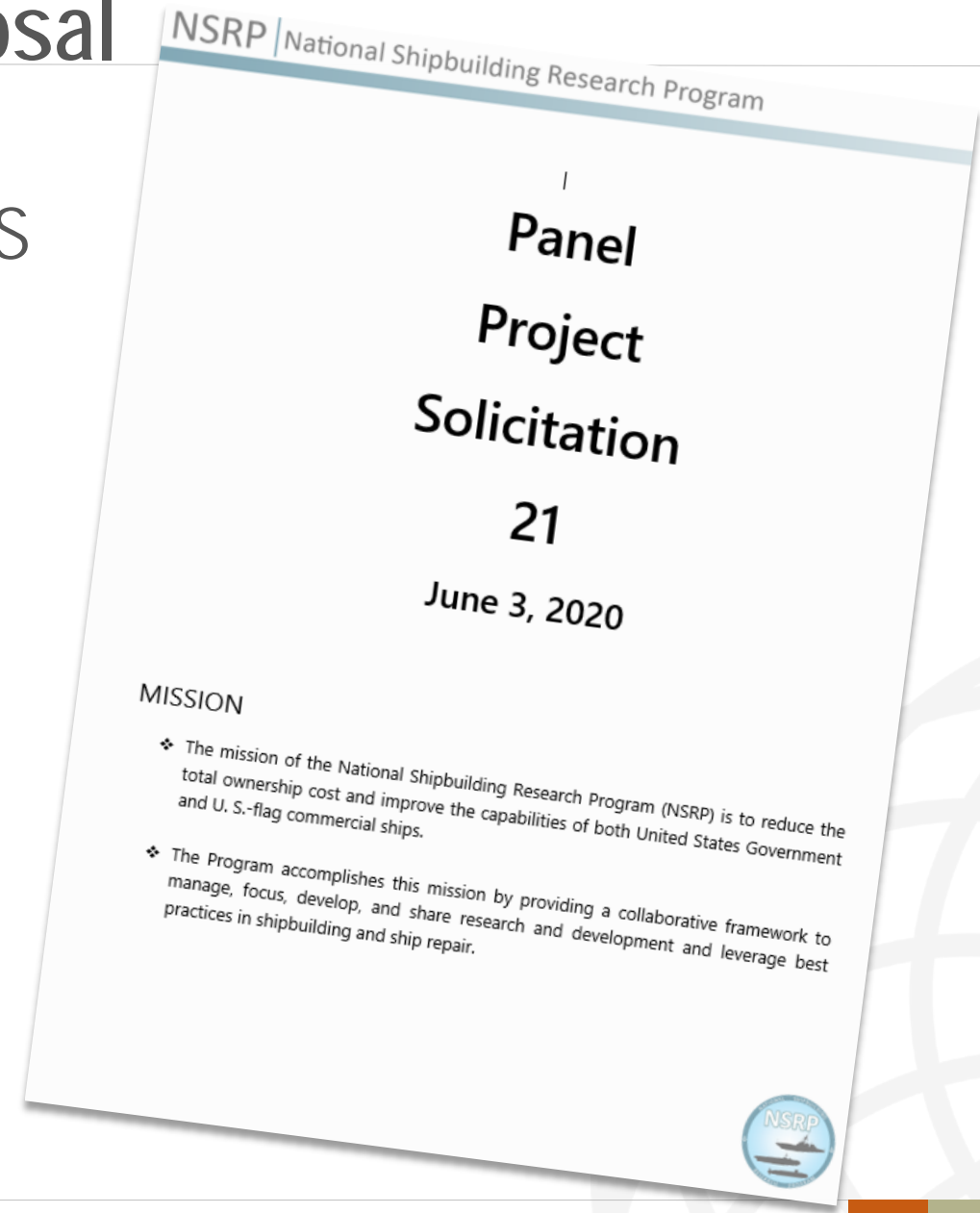
- AFFF
  - Must have been used in the reporting year to be included in a TRI report
  - Simply storing the chemical does not trigger reporting
- Consult [https://ofmpub.epa.gov/apex/guideme\\_ext/f?p=104%3A1](https://ofmpub.epa.gov/apex/guideme_ext/f?p=104%3A1) for most up to date guidance





# NSRP Panel Project Proposal

- Understand products and materials used by the industry that contain PFAS
- Examine potential risks from PFAS to the industry
- Assess state and federal emerging regulatory requirements
- Develop strategies to mitigate risk







# Thank you for your time

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