



Toxic Release Inventory (TRI) Reporting for Certain Per- and Polyfluoroalkyl Substances (PFAS) – Midwest Environmental Compliance Conference



Presentation Overview

- Brief Introduction
- PFAS Regulatory Status
- TRI Reporting Options & Threshold Determinations
- TRI PFAS Strategy



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- 23 Years Environmental Consulting
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 - Responsible for EPCRA Reporting / Compliance for all 12 US facilities
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- PFAS (per- and polyfluoroalkyl substances)
 - A family of man-made chemicals
 - Nearly 5,000 types (includes perfluorooctanesulfonic acid (PFOS), perfluorooctanoic acid (PFOA), GenX, and others)
- Properties favorable to industrial and commercial uses
- Hindrances to environment
 - Persistent in the environment
 - Build up in fish and wildlife
 - Toxic at low concentrations

What Are Some Sources of PFAS Chemicals?

- Firefighting foam
- Water-resistant clothing
- Stain treatment for clothing and furniture
- Nonstick pots and pans (PFOA is used to make nonstick coatings)
- Food containers
- Carpeting and carpet treatments
- Cleaning products
- Pesticides
- Waterproof coatings

- New area of regulatory focus
 - EPA issued "PFAS Action Plan" to help states and communities address PFAS and public health (issued Feb. 2019; updated Feb-20)
 - Drinking water: EPA issued a preliminary determination to regulate PFOS and PFOA in drinking water (Feb-20)
 - Cleanups – EPA:
 - issued Interim Recommendations for Addressing Groundwater Contaminated with PFOA and PFOS (Dec-19)
 - initiated the process to list PFOA/PFOS as hazardous substances under CERCLA
 - Others
- <https://geosyntec.com/pfas-webinars#Registration>

- Manufacturing and importing phase outs
 - 3M voluntarily phased out manufacturing of PFAS (2000s)
- If were to produce or import PFAS, required to submit Significant New Use Rules (SNURs) under TSCA beforehand (USEPA review)

- Key TRI high-level dates
 - EPA released list of 172 PFAS chemicals are now subject to TRI reporting in Feb-20
 - Effective January 1, 2020
 - PFAS TRI reports for CY2020 due by July 1, 2021
- Key practice point: Facilities covered by TRI should track and collect data on these chemicals during CY2020

PFAS TRI Reporting – Who's Covered?

- Three general criteria
 - Facility has 10 or more full-time employee equivalents ($\geq 20,000$ hrs./yr.)
 - Facility is in a TRI-covered industry sector
 - NAICS Codes (w/some exceptions or caveats)
 - 212 Mining
 - 221 Utilities
 - 31-33 Manufacturing
 - All Other Miscellaneous Manufacturing (includes some sectors under NAICS 1119, 1133, 2111, 4883, 5417, 8114)
 - 424 Merchant Wholesalers, Nondurable Goods
 - 425 Wholesale Electronic Markets and Agents and Brokers
 - 511, 512, 519 Publishing
 - 562 Hazardous Waste
 - Federal Facilities
 - Facility meets chemical threshold

- PFAS TRI reporting thresholds
 - 100 lbs. for manufacturing, processing, and otherwise using of each listed PFAS
 - PFAS is not a TRI chemical category – each TRI-listed PFAS compound has its own 100-lb. reporting threshold
 - (an example of a TRI chemical category is glycol ethers)
- If meet the three qualifications (employee threshold; NAICS; chemical threshold), then must prepare TRI Report(s)

- TRI *de minimus* exemption levels for PFAS
 - PFAS are not PBTs (Persistent Bioaccumulative Toxics); therefore, very small levels eligible for the TRI *de minimus* exemption
 - TRI-listed PFAS compounds other than PFOA = 1%
 - PFOA (CAS #335-67-1) = 0.1% (by weight)
- Laboratory activities exemption
 - **Practice Point:**
 - Maintain documentation of exemption evaluation and determinations
 - Re-evaluate each year

- Violations: Failure to timely and accurately report
- Penalties
 - Statutory penalties: \$58,328 per day, per violation
 - Subject to EPA penalty policies

- Form A can be used when:
 - TRI-listed chemical is not a PBT Chemical (PFAS is not)
 - TRI-listed chemical is not manufactured, processed or otherwise used in an amount of 1,000,000 lb or more during the CY, and,
 - Annual Reportable Amount (ARA) is <500 lb during the CY
 - Includes amount of TRI-listed chemical (*e.g.*, PFAS):
 - Released at the facility
 - Treated at the facility
 - Recovered at the facility as a result of recycling
 - Combusted for energy recovery on-site
 - Transferred from the facility to off-site locations for recycling, energy recover, treatment and/or disposal

- If a facility meets the above criteria (non-PBT, <1,000,000 lb/yr and <500 lb/yr ARA), the facility CAN report using the Form A Report
- If a facility can TRI report via Form A, advisable to do so
- The Form A Report contains minimal information:
 - Facility name, location and contacts
 - The TRI-reportable chemical name and CAS #

PFAS TRI Reporting – Form A vs Form R

	Reported on Form A Report	Reported on Form R Report
Facility-Specific Information (TRI Facility ID, Address, Contacts)	X	X
Name and Title of Owner/Operator (Certifier)	X	X
The Facility's NAICS Code and Dun & Bradstreet #	X	X
Parent Company Name and D&B #	X	X
TRI-Reportable Chemical Name and CAS #	X	X
Specifics on How the TRI-Reportable Chemical was Manufactured, Processed and/or Otherwise Used		X
Maximum Quantity On-Site (Tier II; Range Code)		X
Releases On-Site (lb/yr), Including		
Actual Air Emissions, Fugitive and Stack		X
Water Body into Which the TRI-Reportable Chemical was Discharged		X
Underground Injection Wells		X
Landfills		X
Land Treatment		X
Surface Impoundments		X
Other On-Site Disposal		X
Releases Off-Site (lb/yr), Including		
To POTW(s)		X
TSDFs or Non-Hazardous Waste Facilities		X
On-Site Waste Treatment Methods & Efficiencies		X
On-Site Energy Recovery Method(s) & Quantities		X
On-Site Recycling Method(s) and Quantities		X
Production or Activity Ratio (current RY / prior RY)		X
Source Reduction Activities Implemented		X

- Must quantify all releases (air, wastewater, storm water, off-site disposal, etc.) whether using Form A or Form R, but must report all releases if using Form R
 - For Form A, must confirm <500 lb/yr ARA
 - Keep these calculations in TRI reporting file

TRI Reporting Threshold Determination Refresher

- Total weight material manufactured, processed or otherwise used¹ (lb/yr) x % by weight of the TRI-listed chemical² = lb/yr TRI-listed chemical manufactured, processed or otherwise used
 1. Typically per air permit or production log sheets. Purchasing records, with starting and ending inventory data, can also be used
 2. Typically per the applicable Safety Data Sheets (SDSs).

Manufacture, Process & Otherwise Use

MANUFACTURE

- Your facility receives and reacts two chemicals to produce / create a different TRI-listed chemical X; your facility **manufactures** the resultant TRI-listed chemical X
- Your facility **imports** (from outside of the USA) TRI-listed chemical X; your facility **manufactures** TRI-listed chemical X

PROCESS

- Your facility blends several chemicals, including TRI-listed chemical Y, to make paint; your facility **processes** TRI-listed chemical Y
- Your facility receives a bulk TRI-listed chemical and re-packages the chemical into smaller containers for distribution in commerce

OTHERWISE USE

- Your facility uses a TRI-listed chemical Z to clean equipment; your facility otherwise uses TRI-listed chemical Z

- A facility coats paper with a product that contains 0.11% by weight of PFOA (CAS #335-67-1)(a TRI-listed PFAS chemical)
 - The TRI de minimis for PFOA is 0.1% by weight; the TRI de minimis exceeded
- 100,000 lb of this paper coating applied during CY2020
- $100,000 \text{ lb/yr} \times 0.11\% = 110 \text{ lb/yr}$ of PFOA ‘processed’ during the reporting year
- Exceeds 100 lb/yr and therefore, PFOA is TRI-reportable for the facility for the reporting / calendar year

- Since <1,000,000 lb/yr of PFOA (CAS #335-67-1) (a TRI-listed PFAS chemical) was processed, and,
- IF <500 lb/yr of ARA (includes air emissions, releases via storm and wastewater, treated on-site, off-site recycling and disposal, etc.),
- Then Form A Report can be used



The screenshot shows the EPA's Substance Registry Services (SRS) interface. At the top, the EPA logo and navigation links for Environmental Topics, Laws & Regulations, and About EPA are visible. The main heading is 'Perfluorooctanoic acid'. Below this, a 'Substance Details' section provides the following information:

Internal Tracking Number:	42861
Substance Type:	Chemical Substance
Systematic Name:	Octanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-
CAS Number:	335-67-1
EPA Registry Name:	Perfluorooctanoic acid
Preferred Acronym:	PFOA
Molecular Weight:	414.07
Molecular Formula:	C ₈ HF ₁₅ O ₂

A link for 'Additional Metadata' is provided at the bottom of the details section.

- A facility coats fabric with a product that contains 3% by weight of a TRI-listed PFAS chemical
 - The TRI de minimis for all TRI-listed PFAS chemicals besides PFOA is 1.0% by weight; the TRI de minimis is exceeded
- 3,500 lb of this fabric coating is applied during CY2020
- $3,500 \text{ lb/yr} \times 3\% = 105 \text{ lb/yr}$ of this TRI-listed PFAS ‘processed’ during the reporting year
- Exceeds 100 lb/yr and is therefore TRI-reportable for the facility for the reporting / calendar year

- Data Collection and Air Emissions
 - Air emissions are commonly determined using:
 - Emissions factors and associated production data
 - Typically EPA's CHIEF, webFIRE, etc.
 - » However no EFs are listed on USEPA's CHIEF website for PFAS currently
 - Stack test results (PFAS stack test method in development)
 - Mass balance need detailed info on PFAS in (*e.g.*, SDSs, supplier certifications) and PFAS out (*e.g.*, that remains in finished product, as waste)

- Wastewater
 - Use wastewater sampling results (commonly required by wastewater discharge permit)
 - However, most wastewater discharge permits do not currently require testing for PFAS.
 - Mass balance and SDSs
 - Need wastewater discharge flow rate and safety data sheets; chemist's judgement

- Off-Site Disposal, Recycling, and Energy Recovery
 - Waste profile
 - Generator knowledge (*e.g.*, SDSs, etc.)
 - Sampling / testing of the waste
 - Quantities sent off-site (manifests, or bills of lading)
- Stormwater
 - Use stormwater sampling results (commonly required by stormwater discharge permit)
 - However, most stormwater discharge permits do not currently require testing for PFAS.

- Review current (and past) SDSs of raw materials brought into / used at the facility in search of any PFAS TRI-listed chemicals / CAS #s
 - In certain cases, the SDS may not have information on PFAS

- If not listed on the SDS, could assume the following but may be over-stating the concentration:
 - Assume that TRI-listed PFAS is present just under 1.0%
 - Non-carcinogens present at 1.0% or more by weight must be listed on the SDS
 - Assume present at 1.0% as worst-case
 - Not advisable in many cases as PFAS may not be present at all
 - If you take this route and PFAS not TRI-reportable, even assuming this, documentation of your calculations will most likely be sufficient to document your facility's except status

- TRI Supplier Notifications
 - Names the TRI-listed chemical(s) in the product
 - The % of weight by which each TRI-listed chemical in the product
- Request Supplier Certification stating:
 - The more specific PFAS concentration in the raw material
 - TRI-listed chemical not present at or above the TRI de minimis
 - (1.0% for PFAS besides PFOA; 0.1% for PFOA)
- Other sources of information
 - Your company's other facilities
 - Peers and industry groups

- Sampling for PFAS/PFOA
 - Not required (must use the best readily available data)
 - Generally no enforceable standards for comparison
 - Testing difficulties
 - Potential impacts of results
 - Trigger additional scrutiny by regulators
 - May trigger response requirements
 - Are discoverable



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