Section 313 or Toxic Release Inventory Reporting (TRI)

Trinity Consultants

Introductions

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Introduction

- Importance of TRI Reporting and how it is used
- Recent Changes in Reporting
- Proper Classification of Manufactured, Processed, or Otherwise Used
- Common Pitfalls

Why is TRI Important?

- Provides information to the public on releases and transfers of toxic chemicals.
- **It pays to do it right!**
- Penalties for violations of EPCRA may be up to **$69,733 per violation per day**
- **EPA** has a process for getting TRI questions answered via hotline, FAQ guidance, industry guidance, etc.
  - EPA Audit Policy allows facilities to address potential issues under an audit and receive 100% reduction in gravity-based fines if all conditions are met

TRI Chemical-Specific Guidance Documents

- **Aqueous Ammonia**
- **Certain Glycol Ethers**
- Compounds and Mixtures
- Dioxins & Dioxin-Like Materials
- EBDC Acid, Salts and Esters Category and Mixtures Containing Maneb, Metiram, Nabam and Zineb
- Hydrochloric Acid Aerosols
- **Lead and Lead Compounds**
- **Mercury and Mercury Compounds Category**
- Nicotine and Salts
- **Nitrate Compounds**
- PFAS Reporting Resources
- Pesticides and Other Persistent Bioaccumulative Toxic Chemicals
- Polycholorinated Alkanes Category
- Polychlorinated Biphenyls (PCBs)
- Polycyclic Aromatic Compounds
- Strychnine and Salts
- Toxic Chemical Categories
- Warfarin and Salts

Latest guidance documents at
https://ofmpub.epa.gov/apex/guideme_ext/f?p=guideme:gd-list

TRI Industry-Specific Guidance Documents

- Chemical Distribution Facilities
- Coal Mining Facilities
- **Electric Generating Facilities**
- **Food Processors (January 2025)**
- Leather Tanning and Finishing
- Metal Mining Facilities
- Metal Mining and Naturally Occurring Chemicals Information
- **Petroleum Terminals and Bulk Storage Facilities**
- Presswood and Laminated Products Industry
- Printing, Publishing, and Packaging Industry
- RCRA Subtitle C TSD Facilities and Solvent Recovery Facilities
- Rubber and Plastics Manufacturing
- Semiconductor Manufacturing
- Spray Application and Electrodeposition of Organic Coatings
- Textile Processing Industry

Latest guidance documents at https://ofmpub.epa.gov/apex/guideme_ext/f?p=guideme:gd-list

TRI Publicly Available Tools

EPA ECHO: Enforcement and compliance information on TRI

Envirofacts: All listed TRI reporting forms in TRI history

Risk-Screening Environmental Indicators (RSEI): Explore potential impacts of TRI-reported chemical releases on relative risk

TRI Toxics Tracker: Search TRI data, Create customizable maps, tables, and graphs

TRI Explorer: Search TRI data, Focus on chemical releases, waste transfers, or waste quantities

TRI National Analysis: Annual analysis of TRI data in narrative and graphical format

TRI Basic Data Files: Download all basic TRI data for Form R and Form A by geographical area

TRI Basic Plus Data Files: Contains all data elements from TRI report

Enviromapper: Map environmental data and add points of interest

DMR/TRI Comparison Dashboard: Compares data from NPDES program and TRI

TRI P2 Search Tool: Comprehensive look at source reduction and waste management data

TRI-CHIP: Toxicity information for TRI-listed chemicals

Dioxin/TEQ Data Files: TRI reporting Data from Schedule 1

How is TRI Data Used?

- Public Use
  - Releases in their community
  - Public interest groups
- Industry Use
  - Improve internal auditing
  - Identify material losses
  - Public relations tool
- Government
  - Pollution prevention programs
  - Legislature
- Insurance Companies

TRI RY2024 Changes

- Change to the de minimis levels for the following chemicals
  - Changed from 1.0% to 0.1%:
    - Some cobalt compounds (N096): soluble cobalt(II) salts, cobalt(II) oxide.
    - Some antimony compounds (N010): trivalent antimony.

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TRI RY2024 Changes (2/2)

- All PFAS are designated as “Chemicals of Special Concern”.
- This effects the following on reporting:
  - The de minimis exemption no longer applies for PFAS.
    - Supplies previously not required to disclose if below de minimis levels.
  - PFAS disclosure on SDS regardless of concentration.
  - The simplified Form A and certain range reporting options cannot be used.

Supplier Notifications for PBT & Chemicals of Special Concern

- PBT Chemicals and Chemicals of Special Concern no longer qualify for de minimis for supplier notification
  - Suppliers previously not required to disclose if below de minimis levels
  - As of January 2024, suppliers now required to notify
- **Chemicals includes lead, mercury, benzo(g,h,i)perylene, PFAS, and other common chemicals**
- Producers would have to provide more detailed information on their SDS documents
  - **BIG implications for sites that utilize materials that include PBT chemicals and chemicals of special concern at low concentrations or trace concentrations.**

TRI RY2025 Changes

Nine (9) new PFAS chemicals added to the list for RY2025 (reporting forms due July 1, 2026):

Ammonium perfluorodecanoate (PFDA NH4) (3108-42-7)

Sodium perfluorodecanoate (PFDA-Na) (3830-45-3)

Perfluoro-3-methoxypropanoic acid (377-73-1)

6:2 Fluorotelomer sulfonate acid (27619-97-2)

6:2 Fluorotelomer sulfonate anion (425670-75-3)

6:2 Fluorotelomer sulfonate potassium salt (59587-38-1)

6:2 Fluorotelomer sulfonate ammonium salt (59587-39-2)

6:2 Fluorotelomer sulfonate sodium salt (27619-94-9)

Acetic acid, [(γ-ω-perfluoro-C8-10-alkyl)thio] derivs., Bu esters (3030471-22-5)

Rule codified January 3, 2025

Toxics Release Inventory (TRI)

- Annual report for each EPCRA Section 313 chemical exceeding an activity threshold
  - Manufacture (25,000 lbs)
  - Process (25,000 lbs)
  - Otherwise Use (10,000 lbs)
  - Persistent, Bioaccumulative and Toxic (PBT) have lower thresholds
- Due Date
  - July 1 for the previous calendar year's operations

- ***Releases must match Annual Waste Summary, Annual Emissions Inventory Report, and Discharge Monitoring Reports (DMRs)***

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Manufacture

Threshold: 25,000 lbs

Manufacture means to produce, prepare, compound, or import

On-site use/processing

For sale/distribution outside facility

As a byproduct or impurity

Intermediates

Do not overlook coincidental manufacture!

Definitions:

Impurity

TRI chemical that remains with the final facility product as it is distributed into commerce

By-product

TRI chemical that is separated from a process stream and further processed or disposed of

Process

Threshold: 25,000 lbs

Process means the preparation of a listed chemical, after its manufacture, for distribution in commerce.

- As a reactant
  - P101 Feedstocks
  - P102 Raw materials
  - P103 Intermediates
  - P104 Initiators
  - P199 Other
- Article component
- Repackaging for distribution
- Incidentally as an impurity
- Recycling

As a formulation component

P201 Additives
P202 Dyes
P203 Reaction diluents
P204 Initiators
P205 Solvents
P206 Inhibitors
P207 Emulsifiers
P208 Surfactants
P209 Lubricants
P210 Flame retardants
P211 Rheological modifiers
P299 Other

Otherwise Use

Threshold: 10,000 lbs

Otherwise Use includes most activities not classified under Manufactured or Processed

As a chemical processing aid

Z101 Process solvents
Z102 Catalysts
Z103 Inhibitors
Z104 Initiators
Z105 Reaction terminators
Z106 Solution buffers
Z199 Other

As a manufacturing aid

Z201 Process lubricants
Z202 Metalworking fluids
Z203 Coolants
Z204 Refrigerants
Z205 Hydraulic fluids
Z299 Other

Ancillary or other use

Z301 Cleaner
Z302 Degreaser
Z303 Lubricant
Z304 Fuel
Z305 Flame retardant
Z306 Waste treatment
Z307 Water treatment
Z308 Construction Materials
Z399 Other

EPCRA Section 313 Chemicals - Qualifiers

Chemical/ Chemical Category	CASRN/ Category Code	Qualifier
Aluminum (fume or dust)	7429-90-5	**Only** if it is a fume or dust form.
Aluminum oxide (fibrous forms)	1344-28-1	**Only** if it is a fibrous form.
Ammonia (includes anhydrous ammonia and aqueous ammonia from water dissociable ammonium salts and other sources; 10 percent of total aqueous ammonia is reportable under this listing)	7664-41-7	**Only** 10% of aqueous forms. 100% of anhydrous forms.
Asbestos (friable)	1332-21-4	**Only** if it is a friable form.
Hydrochloric acid (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)	7647-01-0	**Only** if it is an aerosol form as defined.
Nitrate compounds (water dissociable; reportable only when in aqueous solution)	N511	**Only** if in aqueous solution
Phosphorus (yellow or white)	12185-10-3	**Only** if it is a yellow or white form.
Sulfuric acid (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)	7664-93-9	**Only** if it is an aerosol form as defined.
Vanadium (except when contained in an alloy)	7440-62-2	**Except** if it is contained in an alloy.
Zinc (fume or dust)	7440-66-6	**Only** if it is in a fume or dust form.

EPCRA Section 313 Chemicals - Qualifiers

Chemical/ Chemical Category	CASRN/ Category Code	Qualifier
Dioxin and dioxin-like compounds (manufacturing; and the processing or otherwise use of dioxin and dioxin-like compounds if the dioxin and dioxin-like compounds are present as contaminants in a chemical and if they were created during the manufacture of that chemical.)	N150	**Only** if they are manufactured at the facility; or are processed or otherwise used when present as contaminants in a chemical, but only if they were created during the manufacture of that chemical.
Isopropyl alcohol (only persons who manufacture by the strong acid process are subject, no supplier notification)	67-63-0	**Only** if it is being manufactured by the strong acid process. Facilities that process or otherwise use isopropyl alcohol are not covered and should not file a report.
Saccharin (only persons who manufacture are subject, no supplier notification)	81-07-2	**Only** if it is being manufactured.

PBT Chemicals and Chemical Categories 372.28

- PBT chemicals & Chemicals of Special Concern are subject to separate and lower activity thresholds (See 40 CFR 372.28)

PBT & Chemicals of Special Concern Thresholds

- 100 lbs./yr (manufactured, processed, or otherwise used)
  - *Aldrin*
  - *Lead**
  - *Lead Cmpds.*
  - *Methoxychlor*
  - *PFAS*
  - *Pendimethalin*
  - *Polycyclic Aromatic Cmpds.*
  - *Tetrabromobisphenol A*
  - *Trifluralin*
- 10 lbs./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*

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Threshold Guidance - Combustion

- TRI chemicals coincidentally manufactured (including those manufactured during activities covered under "otherwise use" exemptions) must be considered towards the manufacturing threshold
  - Includes acid aerosols and metal compounds manufactured as by-products of fuel combustion
- Unless exempted, TRI chemicals in the fuel are being otherwise used
- EGU TRI Guidance (February 2020):

> To calculate the amount of Section 313 metal compounds manufactured during combustion, facilities must first estimate the concentration of each metal present in the coal, oil, or other fuel. These metals are likely to exist as metal compounds in the fuel. The best available information should be used to estimate the approximate concentration of the metal in the fuel. If a facility has data regarding chemical concentrations in the fuels used by the facility, and the facility believes that this is the best readily available information, then the facility should use this information. If specific concentration data of EPCRA Section 313 chemicals in fuel does not exist at your facility, there are several sources where the facility can find this concentration data. Examples include specifications of product content and concentrations from the supplier, as well as nationally assembled data such as the U.S. Geological Survey's (USGS) coal quality data base (http://energy.er.usgs.gov/products/databases/CoalQual/) or Electrical Power Research Institute's (EPRI) PISCES data base on coal constituents.

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Exemptions (1/2)

- De minimis applies to:
  - Non-PBT chemicals in mixtures
  - Processed or otherwise used
  - Only 2 manufacturing activities:
    - Coincidentally manufactured as an impurity remaining in the product
    - Imported in mixtures
  - Concentration in mixture <1% by weight
  - Concentration <0.1% by weight (OSHA defined carcinogen)
  - Not required to include in threshold determinations, release or other waste management determinations

a. Individually-Listed Toxic Chemicals Arranged Alphabetically

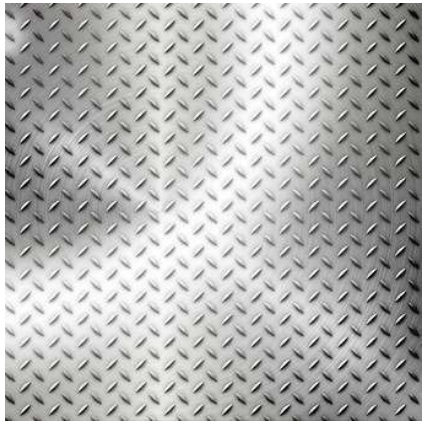
CAS Number	Chemical Name	*De minimis* % Limit
71751-41-2	Abamectin [Avermectin B1]	1.0
30560-19-1	Acephate (Acetylphosphoramidothioic acid O,S-dimethyl ester)	1.0
75-07-0	Acetaldehyde	0.1
60-35-5	Acetamide	0.1
75-05-8	Acetonitrile	1.0
98-86-2	Acetophenone	1.0
53-96-3	2-Acetylaminofluorene	0.1
62476-59-9	Acifluorfen, sodium salt [5-(2-Chloro-4-(trifluoromethyl)phenoxy)-2-nitrobenzoic acid, sodium salt]	1.0
107-02-8	Acrolein	1.0
79-06-1	Acrylamide	0.1
79-10-7	Acrylic acid	1.0
107-13-1	Acrylonitrile	0.1
15972-60-8	Alachlor	1.0
116-06-3	Aldicarb	1.0
309-00-2	Aldrin [1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-(1α,4α,4aβ,5α,8α,8aβ)-]	*

Exemptions (2/2)

- Once the de minimis threshold has been met, the exemption cannot be claimed. Report releases from that point forward.
- Straddling De Minimis Concentration do not qualify for De Minimis Exemption

More Exemptions

- Article – manufactured item:
  - Formed to specific shape or design; and
  - End use function dependent on shape or design; and
  - Does not result in a release of 313 chemical during normal use
- If the basic dimensional characteristics are totally altered during processing or otherwise use, the item does not meet the exemption.



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More Exemptions

- Specified Use
  - Structural component of facility
  - Routine janitorial or grounds maintenance
  - Products for personal use
  - Motor vehicle maintenance
- Laboratory Activities
  - Research & quality control
- Owner of Leased Property
  - Operator required to report
- NAICS specific
- Chemicals used in these activities are NOT exempt:
  - Facility equipment maintenance
  - Cleaning or maintenance activities that are directly associated with or integral to the production process at the facility.

Threshold for Mixtures Using SDS Data

- Individually listed Section 313 chemicals are reported separately.

$$Section\ 313\ wt\ \% \times wt\ used\ (lbs) = Amount\ towards\ threshold\ (lbs)$$

- Guidelines for concentration to use for threshold analysis:
  - Concentration should be based on how it is presented in the SDS document, where X and Y are the provided weight percentages

<X

Use X in calculations

0 – X

Use X in calculations (same as <X)

X – Y

Average of X and Y unless straddles de minimis

>X

Average of X and 100 or average of X and calculated upper bound, if known

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Data Precision

- EPA allows using two significant figures when reporting releases and other waste management estimates
- If estimate is more precise, additional significant figures may be used based on precision or data used to calculate estimate
- For PBT chemicals, report releases and other waste management quantities at a level of precision supported by the data and estimation techniques used
- **Round non-PBT chemicals to 2 significant figures or the nearest whole number**
- **Round PBT chemicals to 2 significant figures or the nearest tenths place (one decimal place)**

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TRI Reporting - Zero vs. NA

Use "NA"

When no possibility of the TRI chemical being released to media or managed as waste

Use "Zero"

When <0.5 pound of a non-PBT chemical is directed towards that medium

Examples

Zero - If a facility uses nitric acid and the wastes are neutralized to a pH of 6 or above before discharge

NA - If facility does not landfill the waste

Calculating Wastewater Discharges (Section 5.3)

- Calculate the yearly pounds of methanol discharged using the following data concerning wastewater discharges of methanol:

Date	Conc. (mg/l)	Flow (MGD)	Amt. (lbs/day)
3/1	1.0	1.0	8.34
9/8	0.2	0.2	0.33
Average	0.6	0.6	4.34

- **EPA way: Average = 4.34 lbs/day = 1,600 lbs/yr**
- **Wrong way: 0.6 mg/l x 0.6 MGD x 8.34 = 3.00 lbs/day (1,100 lbs/yr)**
  - MGD = million gallons per day
  - 1 mg/l = 8.34 lbs/million gal

Thank you

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