



TRI Training Module Agendas

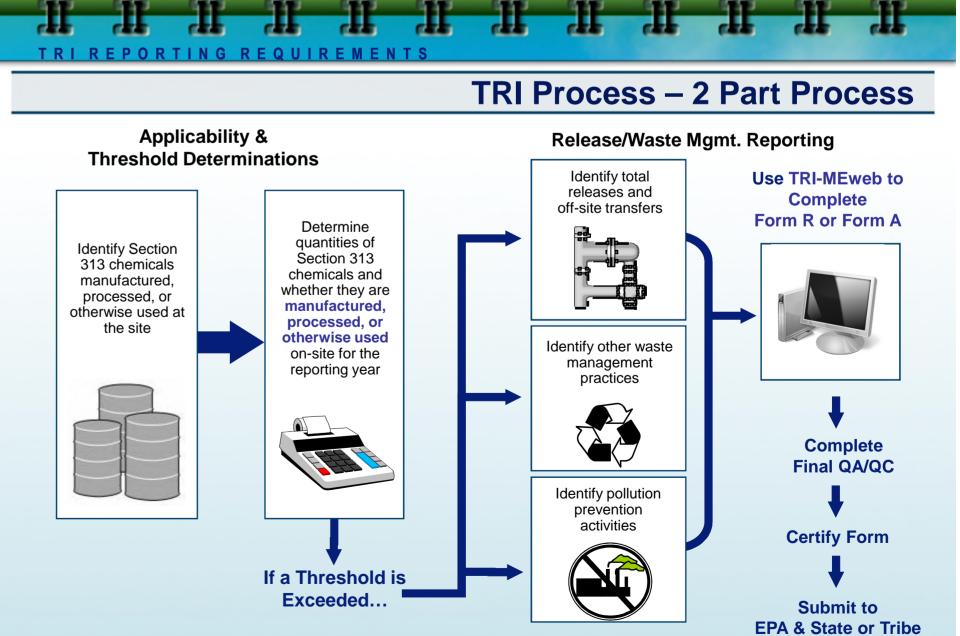
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Basic Concepts Module

- 1. Introduction
- **Covered Sectors** 2.
- Threshold (PBT and Non-PBT) 3.
- **Reporting Exemptions** 4.
- Threshold Determinations 5.
- Overview of Form R 6.
- Alternate Threshold Rule (Form A) 7.
- **TRI-MEweb** Introduction 8.

Advanced Concepts Module

- 1. Recent TRI Program Changes
- Advanced Reporting Guidance 2.
- **Detailed PBT Guidance** 3.
- **Tools and Assistance** 4
- **TRI-MEweb** 5.

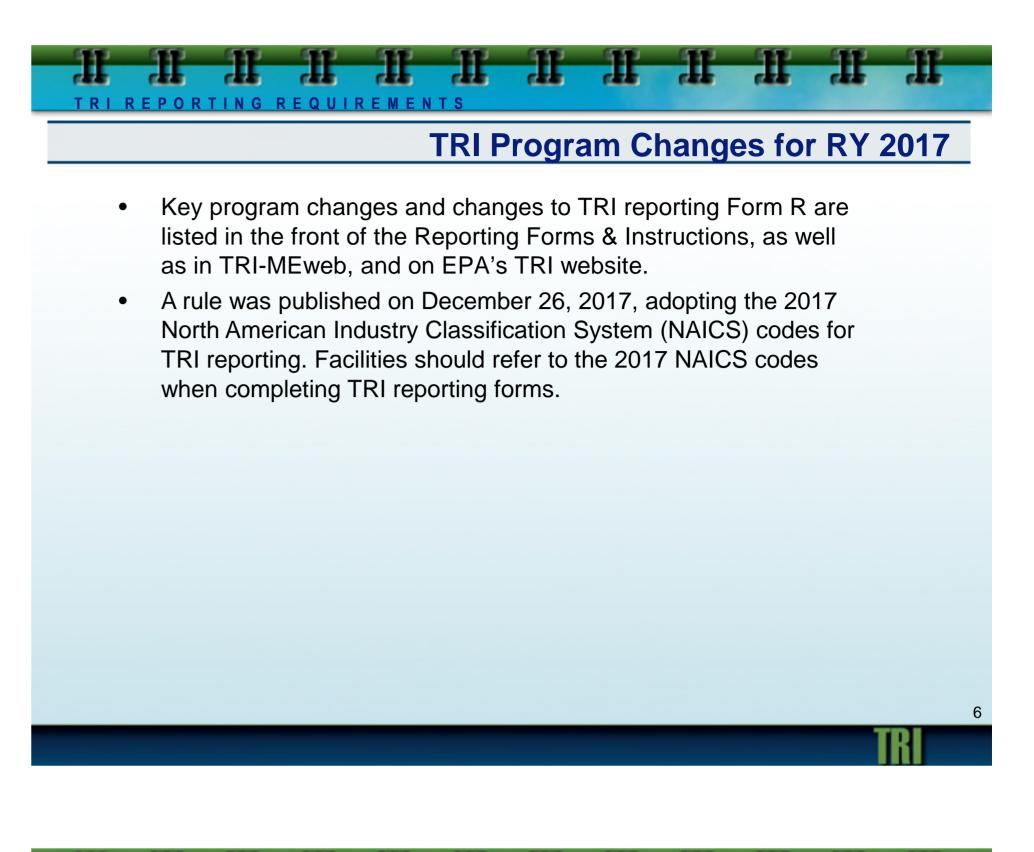






Chemical List Changes

- A rule was published on November 28, 2016, adding hexabromocyclododecane (HBCD) category to the TRI list of reportable chemicals
 - Facilities that manufacture, process or otherwise use HBCD must submit reports for this chemical category by July 1, 2018 on data for <u>Reporting Year 2017</u>
 - <u>https://www.epa.gov/toxics-release-inventory-tri-program/addition-hexabromocyclododecane-hbcd-category-tri-list-final</u>
- A rule was published on November 23, 2015, adding 1-bromopropane to the TRI list of reportable chemicals
 - Facilities that manufacture, process or otherwise use 1-bromopropane that meet manufacture, process, otherwise use and other threshold criteria submitted reports on this chemical starting in <u>Reporting Year 2016</u>
 - <u>http://www2.epa.gov/toxics-release-inventory-tri-program/addition-1-bromopropane</u>
- A rule was published on September 30, 2014, adding a nonylphenol category to the TRI list of reportable chemicals
- Facilities that manufacture, process or otherwise use nonylphenol began submitting chemical reports to the Agency for **Reporting Year 2015**
- <u>http://www2.epa.gov/toxics-release-inventory-tri-program/addition-nonylphenol-category</u>





- Facilities are required to report all non-trade secret TRI data to EPA using the TRI-MEweb online reporting application
- To revise or withdraw a previously-submitted TRI reporting form, facilities need to use TRI-MEweb to do so electronically
- Facilities may submit, revise, or withdraw TRI forms going back to reporting year (RY) 1991





•	PBT chemicals are subject to separate and lower activity thresholds
	(See 40 CFR § 372.28)

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

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PBT Thresh

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

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Non-PBT TRI Chemical Activity Thresholds

• A facility meeting the first two applicability criteria for reporting must file a TRI Report for a non-PBT Section 313 chemical if the facility:

Non-PBT Thresholds

- Manufactured (including imported) more than 25,000 pounds of the chemical in the reporting year, or
- **Processed** more than 25,000 pounds of the chemical in the reporting year, *or*
- <u>Otherwise Used</u> more than *10,000* pounds of the chemical in the reporting year
- Most of the 650+ chemicals and chemical categories on the Section 313 list are non-PBT chemicals.

• The following activities are not considered "manufacturing," "processing," or "otherwise use"

Remediation

- Chemicals being remediated are not manufactured, processed, or otherwise used
- Chemicals used to remediate waste ARE counted as otherwise used
- Chemicals manufactured when treating or remediating waste ARE counted toward manufacturing threshold
- Treatment of wastes generated on-site
 - Wastes brought in from off-site for treatment or other management count towards the otherwise use threshold
- Storage
- Recycling on-site for use on-site
- Transferring chemicals off-site for further waste management
 - Not including recycling. Chemicals sent off-site for recycling are counted as processed.
- These activities do not constitute threshold activities, but are not exempt from reporting if threshold is exceeded through other activities unless specifically eligible for one of the reporting exemptions
- Chemicals coincidentally manufactured during waste treatment or remediation
 must be considered

Threshold Guidance - Combustion

- Section 313 chemicals may be coincidentally manufactured during combustion of:
 - Oil
 - Coal
 - Natural gas
 - Waste
 - Other materials

TRI REPORTING REQUIREMENT



- Includes acid aerosols and metal compounds manufactured as by-products of fuel combustion
- Any Section 313 chemicals in fuels combusted for energy are considered otherwise used.



- Elemental metals (metals in their neutral state) and their corresponding metal compound categories are listed separately under Section 313
 - Separate activity threshold determinations
 - Report for each listing (e.g., nickel or nickel compound) only if the threshold for each listing is exceeded
 - For metal compounds calculations:
 - Use full compound mass for threshold determination
 - Use only parent metal mass for release and waste quantities
 - If threshold exceeded for both the elemental metal and metal category compound (e.g., nickel and nickel compounds), you may report separately or file one combined report
 - If combined, file as metal category compound
 - The reason both the elemental metal and its compound may be reported on the same compound form is that while the entire weight of the compound is used to determine the threshold, only the amounts of the parent metal are reported.

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Exemption Guidance

Reminder:

- Even where your activity is covered by an "otherwise use" exemption such as motor vehicle maintenance, if Section 313 chemical are manufactured as byproducts, coincidentally as impurities, or otherwise manufactured, they must be considered toward the manufacturing threshold.
- Section 313 chemicals in fuels added to motor vehicles as part of the facility's service or product do not qualify for the motor vehicle maintenance exemption
- Considered toward processing threshold
- Laboratory activities exemption only applies to certain activities that take place in a laboratory and they must be under the direct supervision of a technically qualified individual





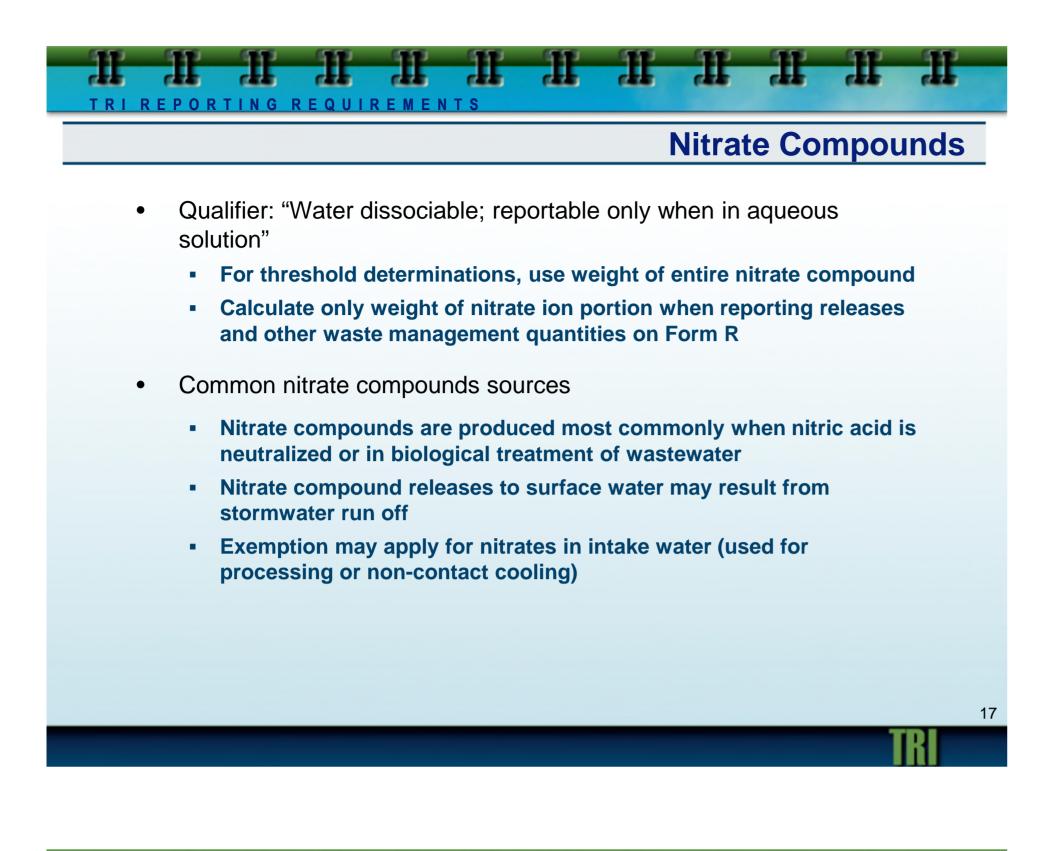
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- A metal cyanide compound, such as cadmium cyanide, requires separate reporting under both cadmium and cyanide*
 - For reporting the metal compounds, such as cadmium compounds:
 - for threshold determinations, use entire weight of compound
 - for release and other waste management reporting, report only the weight of metal portion of the compound
 - For cyanide compounds
 - for threshold determinations, use weight of entire compound
 - for release and other waste management reporting, report weight of entire compound

* Qualifier for cyanide compounds states: X^+CN^- , where $X=H^+$ or any other group where a formal dissociation may occur. For example, KCN or Ca(CN)₂



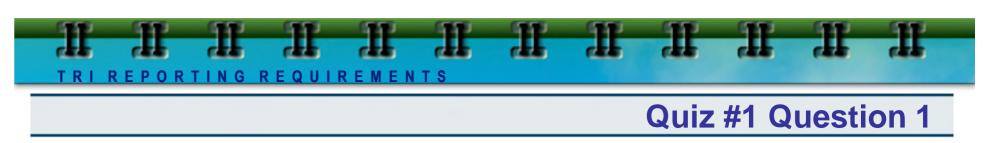


A facility neutralizes 20,000 lb of nitric acid (HNO3) with sodium hydroxide (NaOH) in an on-site wastewater treatment system. The neutralization is 100% complete and generates sodium nitrate (NaNO3), which is discharged to a nearby water body.

The molecular weight (MW) of HNO3 = 63 and the MW of NaNO3 = 85. One mole of HNO3 generates one mole of NaNO3.

Does the facility exceed the manufacturing threshold for nitrate compounds?

Select Yes or No.



A facility processes 200,000 lb of a mixture containing 10% zinc chromate and 15% chromium dioxide by weight.

For which of the following chemical categories was the processing threshold exceeded?

- A. Chromium compounds only
- B. Zinc compounds only
- C. Neither
- D. Both



A facility neutralizes 20,000 lb of nitric acid (HNO3) with sodium hydroxide (NaOH) in an on-site wastewater treatment system. The neutralization is 100% complete and generates sodium nitrate (NaNO3), which is discharged to a nearby water body.

The molecular weight (MW) of HNO3 = 63 and the MW of NaNO3 = 85. One mole of HNO3 generates one mole of NaNO3. The MW of the nitrate ion NO3 = 62.

In this example, should the facility report release of 27,000 lb of nitrate compounds as to a stream or water body? (Section 5.3 on Form R)?

Select Yes or No.

Ammonia Guidance

Ammonia

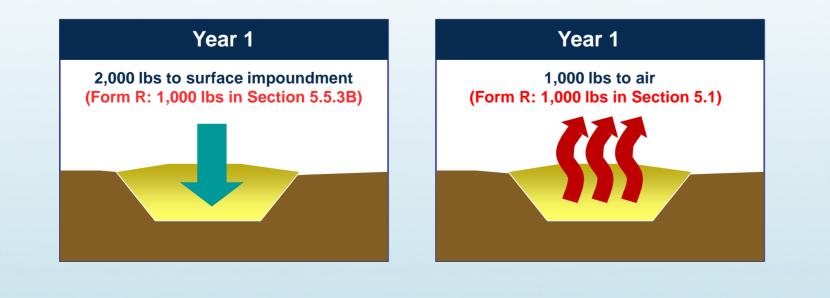
TRI REPORTING REQUIREMENTS

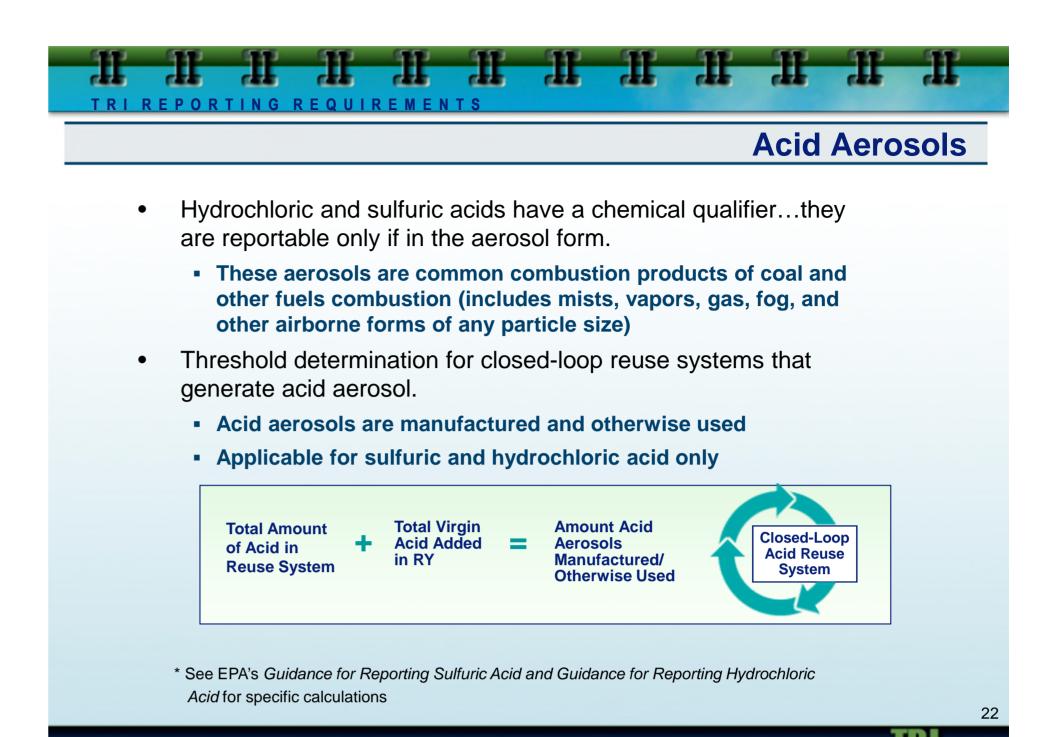
- Aqueous ammonia threshold determination and release and other waste management quantity calculations for aqueous ammonia from any source (i.e., anhydrous ammonia placed in water or water dissociable ammonium salts) is based on 10% of the total ammonia present in aqueous solutions
- Anhydrous ammonia include 100% for thresholds and releases
 - Including air releases from aqueous ammonia
- Amounts from aqueous sources and anhydrous sources get added together for threshold determinations and ammonia reports

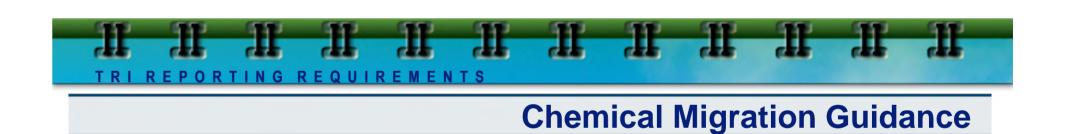




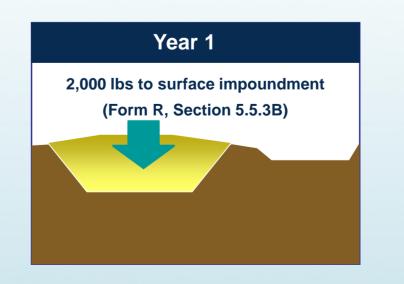
- Migration of a Section 313 chemical contained in waste disposed or released from one environmental medium to another within the reporting year:
 - For example, volatilization from a landfill
 - Release estimates must be calculated and reported for all media in Part II, Sections 5, 6, and 8 of Form R

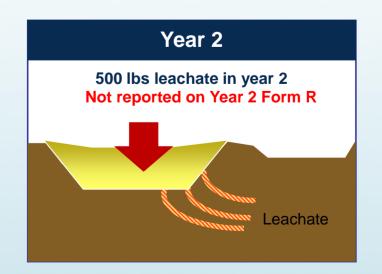






- Migration of a Section 313 chemical contained in waste reported as disposed or released in previous years:
 - For example, leachate from landfill
 - Report only the initial release of chemical to the environment



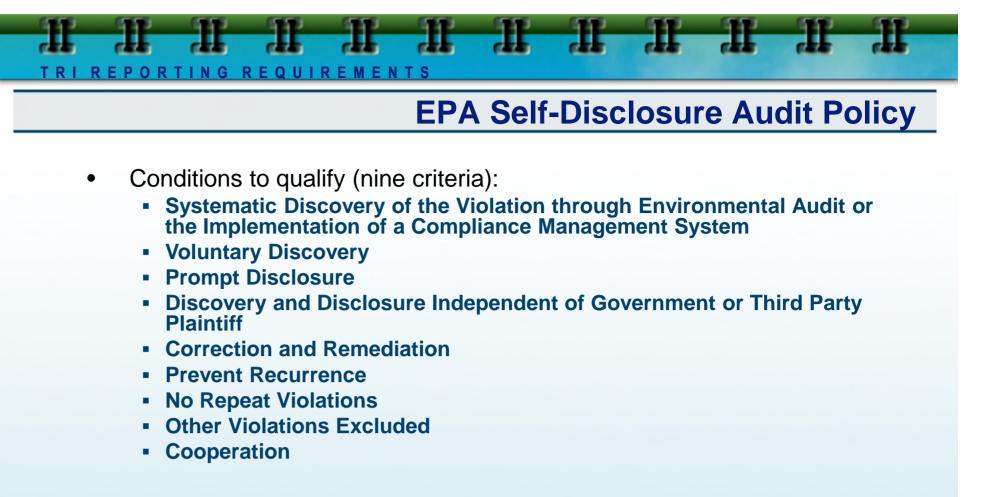


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- EPA Compliance Incentive Policy available only to small businesses
 Small businesses employ 100 or fewer individuals across all facilities and operations
- Small businesses that meet all 4 conditions of the policy may have 100% of the gravity based penalty waived. However, EPA reserves the option to collect any significant economic benefit which may have been realized by the facility.
- Conditions to qualify (four criteria):
 - Good Compliance Record
 - Voluntary Discovery
 - Prompt Disclosure
 - Correction and Remediation
- For more information, including a copy of the Small Business Compliance Policy and a Q&A document, visit:
 - www.epa.gov/compliance/small-business-compliance

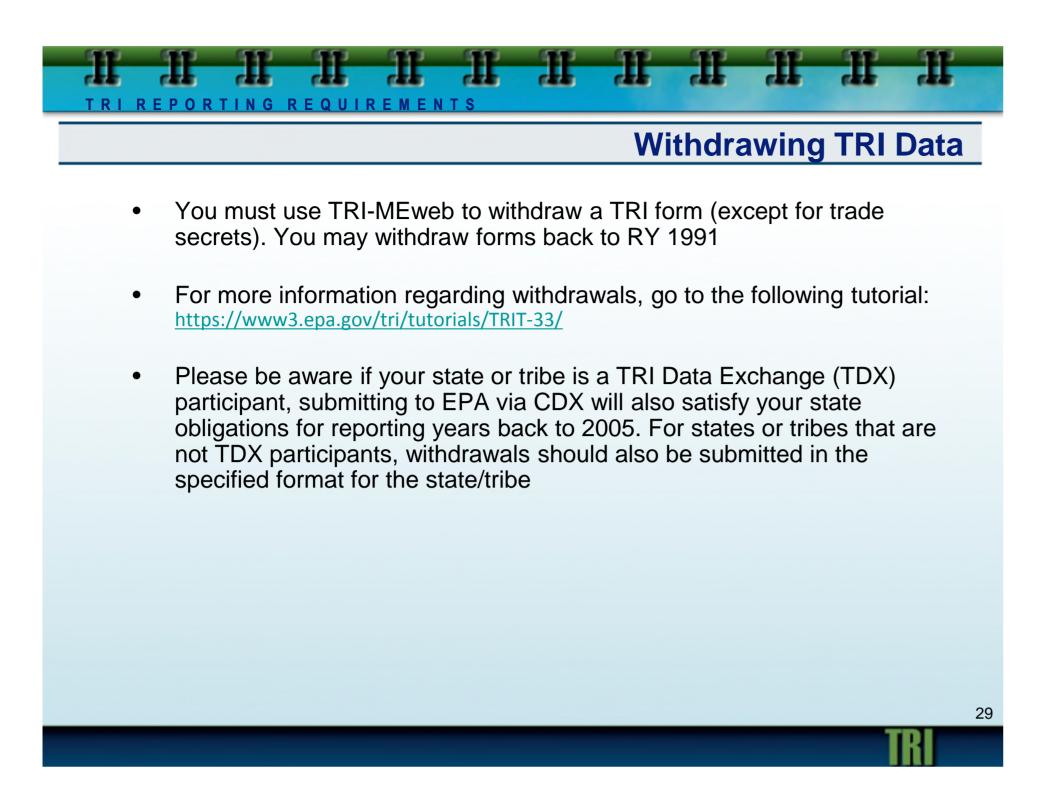
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 For more information, including a copy of the Audit Policy visit: <u>www.epa.gov/compliance/epas-audit-policy</u>



- Revised TRI data that are not trade-secret must be submitted using TRI-MEweb through the Internet via EPA's CDX. You may only revise back to RY 1991
- If your state or tribe participates in the TRI Data Exchange (TDX) then submitting via CDX to EPA will also satisfy your obligation to report to the state or tribe in which your facility is located if the revision is for RY 2005 through the present reporting year. Otherwise, revisions must also be submitted in the state- or tribe-specified format. To determine if your state or tribe is in TDX go to: <u>http://www2.epa.gov/toxics-releaseinventory-tri-program/tri-data-exchange</u>



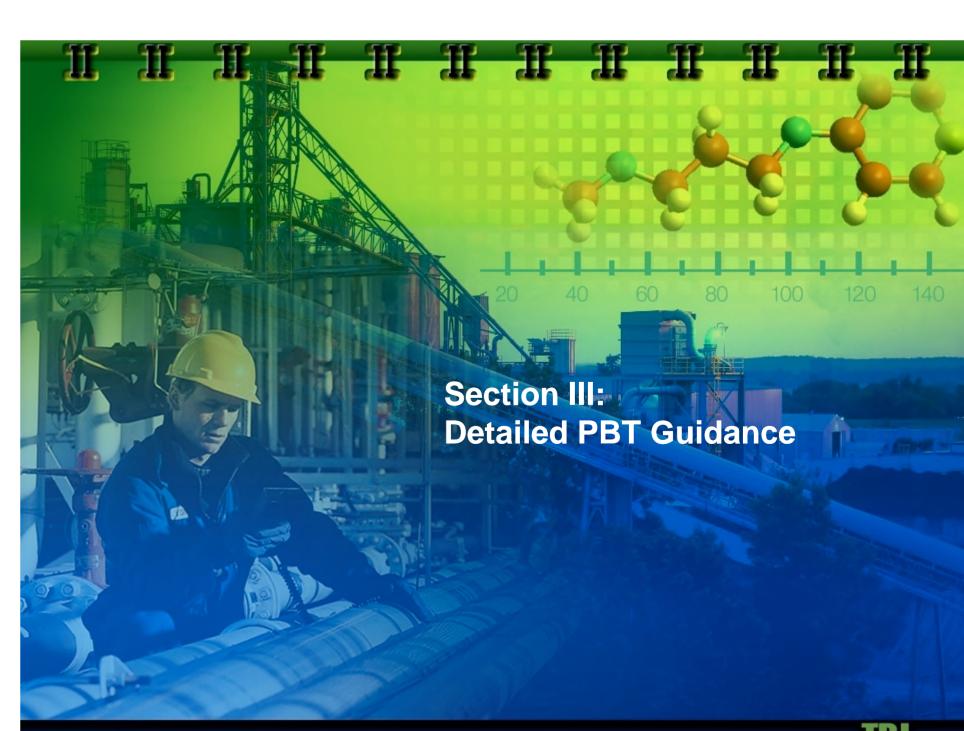


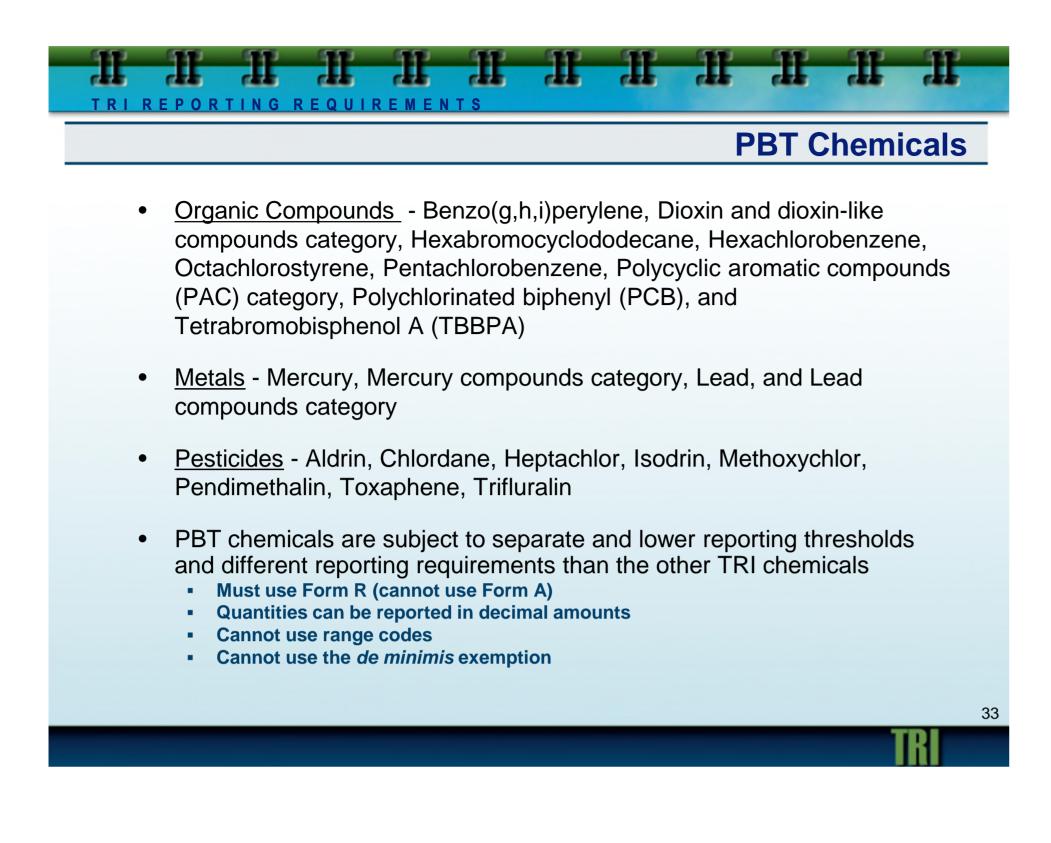
- Owners and operators of covered facilities violating any statutory or regulatory requirement are subject to penalties of up to \$37,500 per day per violation (periodically adjusted for inflation)
- Owners and operators of covered facilities subject to citizen suits could also be liable for attorney fees and litigation costs (EPCRA § 326(f))
- Government's penalty for Section 313 of EPCRA is determined by applying the statutory penalty factors as described in the Enforcement Response Policy (ERP) to each violation
 - For EPA's EPCRA enforcement policies, visit: <u>http://cfpub.epa.gov/compliance/resources/policies/civil/epcra/index.cfm</u>



- Form R submitted to replace previously filed Form A Certification Statement
 - Must withdraw the previously filed Form A Certification Statement and then submit a Form R. The Form R is considered to be a late submission if submitted after the reporting deadline
- For a change in chemical reported (including a metal to a metal compound) you must withdraw the original submission and re-submit for the new chemical. This is not a revision.
- EPA may audit revisions or withdrawals at any time.

TRI REPORTING REQUIREMENTS







- Dioxin and dioxin-like compounds category is composed of 17 individually listed compounds
 - In addition to the total mass grams released for the entire chemical category, facilities that have the data are required to report the quantity of each of the 17 individual members, which must add up to the total mass for the category
- Dioxin and Dioxin-like Compounds Toxicity Equivalency (TEQ)
 - Each compound has an assigned Toxic Equivalency Factors (TEFs) that is multiplied with the compound mass to yield TEQ
 - TEQ for each of the compounds are summed to provide a category TEQ
 - TEQ values are made available to the public along with mass data
- Emission factors, listed compounds, TEFs and other guidance: <u>www.epa.gov/toxics-release-inventory-tri-program/guidance-dioxin-and-dioxin-compounds-category</u>

Dioxin and Dioxin-like Compounds

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- Dioxin and dioxin-like compounds are reported in grams
- The manufacture, process, or otherwise used activity thresholds are 0.1 gram

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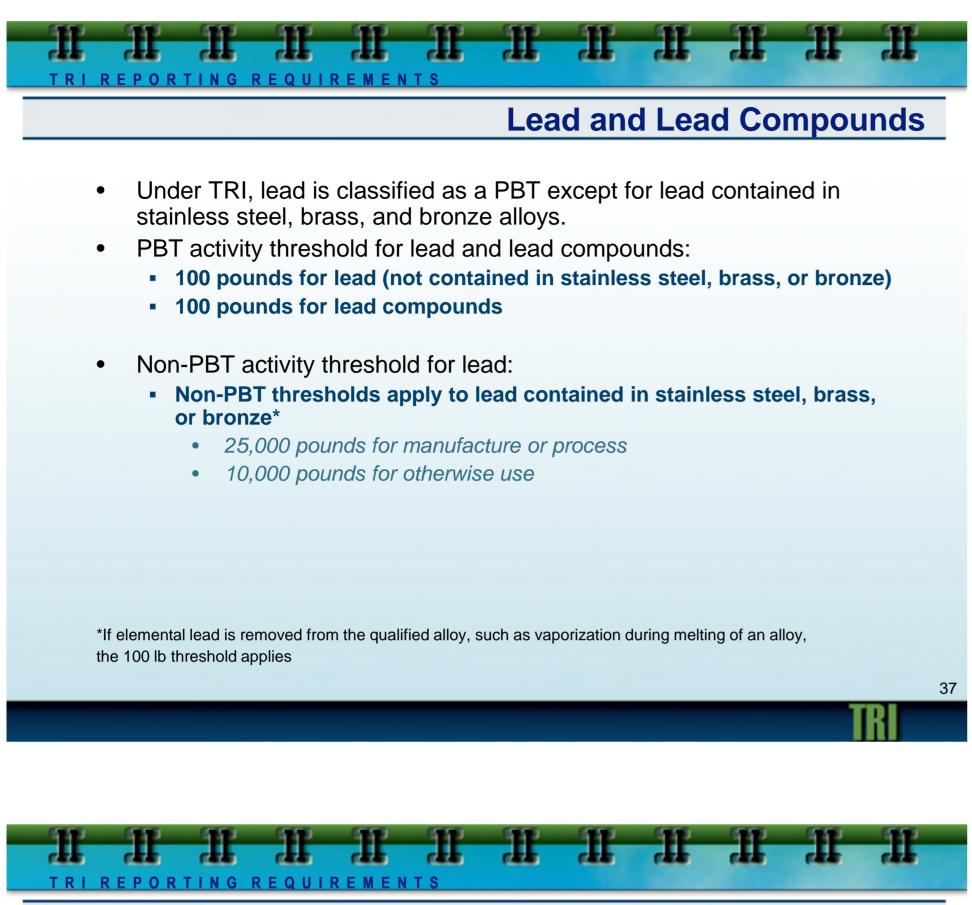
- Dioxins formed as unwanted byproducts when chlorinated materials involved in combustion or other high-temperature processes, such as:
 - Fossil fuel and wood combustion
 - Waste incineration

TRI REPORTING REQUIREMENTS

- Metallurgical processes
- What it takes to exceed the 0.1 gram activity threshold?
 - 64,500 tons of coal combusted in a utility boiler
 - 8.33 million gallons of fuel oil combusted in a utility boiler
 - 1,230 tons of copper scrap fed to a secondary copper smelter



- Raw materials processed by a variety of facilities may contain metallic lead or lead compounds:
 - Metal ores
 - Coal
 - Wood
 - Oil & Oil products: heating oils, gasolines
- Lead used in solder and other alloys is in the elemental NOT the compound form (i.e., this is lead, not a lead compound)
- Lead-acid batteries will typically meet the articles exemption
- Sending old paint containing lead off-site for disposal or treatment is not a threshold activity
- Other sources of lead and lead compounds for PBT threshold:
 - Lead solder, lead babbitt, castings/molds, contaminants of aluminum and other common base alloys, X-Ray film
 - Cement, asphalt, graphite brushes, leaded glass
 - Transfers of lead and lead compounds off-site for recycling



Quiz #2 Question 1

A facility combusts 13,600,000 lbs. of coal to fire its boilers. The coal contains elemental lead (Pb) at 7.0 ppm by weight. In combusting the coal, the facility otherwise uses lead and coincidentally manufactures lead compounds. The facility has no other information about the chemical makeup of the lead compounds manufactured and assumes it is the lowest-weight oxide - PbO. Based on molecular weights (Pb = 207, PbO = 223), the facility knows that 223 lbs. of PbO is formed for every 207 lbs. Pb used.

Which of the following thresholds have been exceeded for lead or lead compounds?

- A. Otherwise Use only
- B. Manufacturing only
- C. Neither
- D. Both

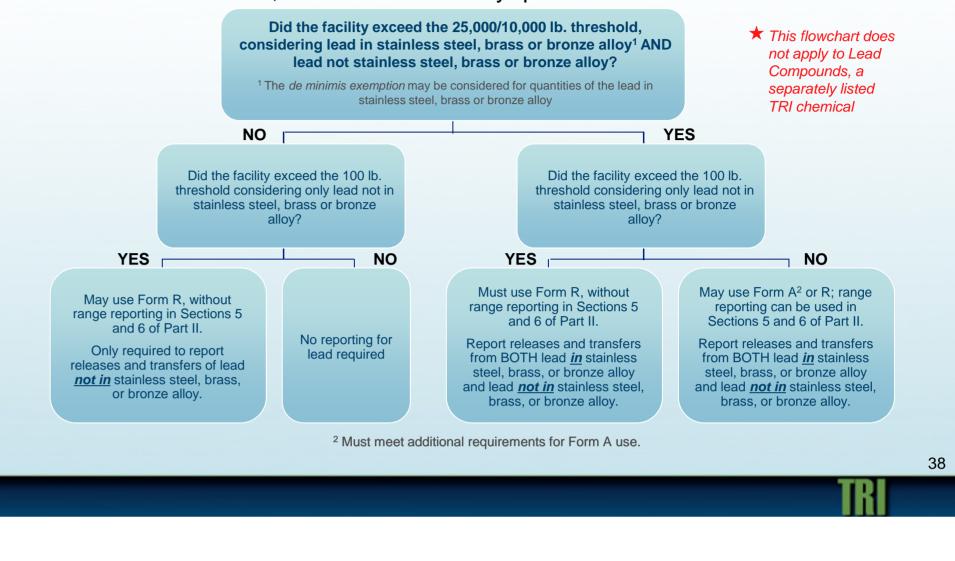
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Lead Threshold Determination Flow Chart

 Activity thresholds and reporting requirements for lead related to stainless steel, brass or bronze alloy qualifier

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TRI REPORTING REQUIREMENTS

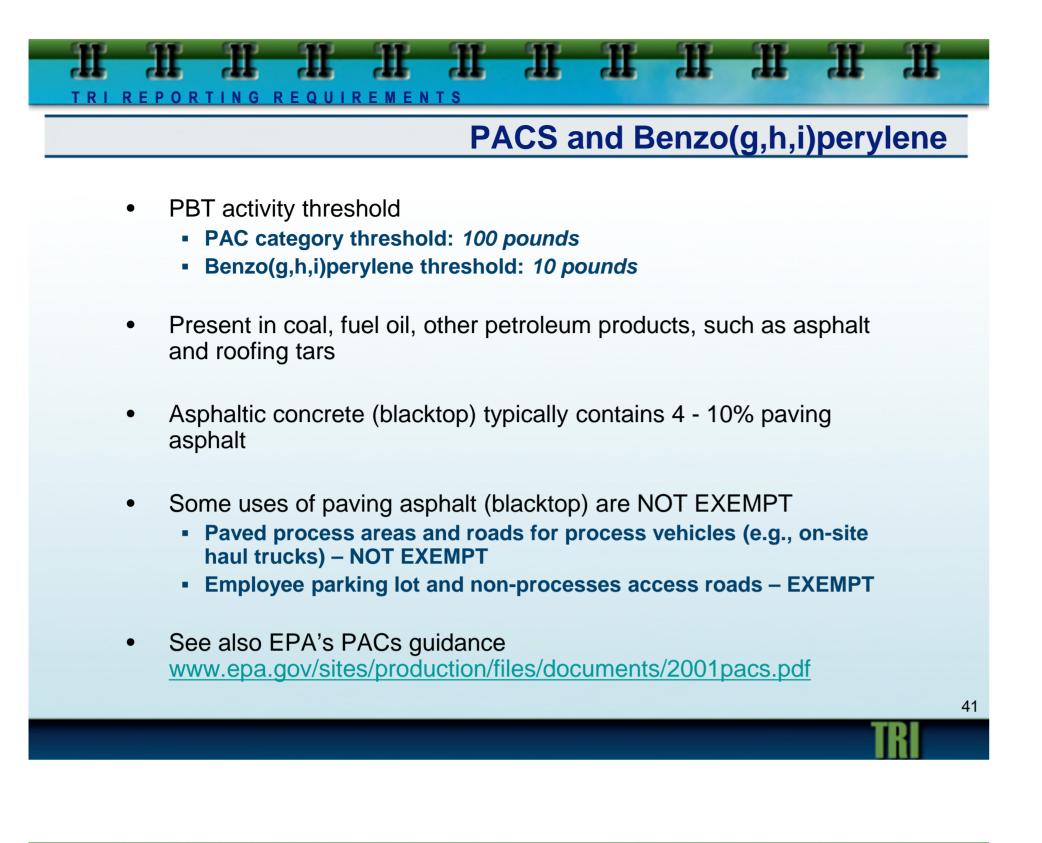




The facility in the previous question combusted 13,600,000 pounds of coal in the reporting year and has exceeded the reporting threshold for lead compounds. The facility has no monitoring data on their point source lead emissions from combusting the coal. They determined that their best available information for calculating their point source air emissions is the published emission factor for lead from controlled coal combustion from EPA's AP-42* which is 4.2E-04 lb Pb/ton of coal combusted.

What are the facility's point source emissions of lead from coal combustion?

A. 2.86 lbB. Range Code 'A'C. 95.2 lbD. Either 2.86 lb or Range Code 'A'





- PBT activity threshold:
 - 10 pounds for mercury
 - 10 pounds for mercury compounds
- <u>Combustion of fuels</u> is expected to be a main source of mercury triggering a reporting threshold
- Combustion involves the otherwise use of <u>mercury compounds</u> in fuel, and the manufacture of <u>elemental mercury</u>
- Amount of fuel required to exceed a threshold
 - No. 2 Fuel Oil: 1.41 x 10⁹ gallons
 - Coal: 11,000 120,000 tons
 - No. 6 Fuel Oil: 1.89 x 10⁹ gallons

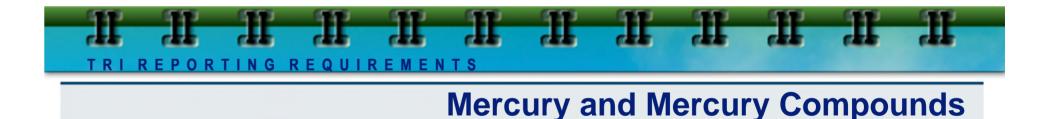


PACs (cont.)

• Quantity required to meet threshold

Fuel Material	Typical Concentration	Quantity Needed to Meet Threshold (gallons)
No. 6 Fuel Oil (Bunker C)	2461 ppm	5,140
No. 2 Fuel Oil	10.0 ppm	1,410,000
Crude Oil	depends on type of crude	
Gasoline	17 ppm	1,060,000
Paving Asphalt	178 ppm	51,800

From EPA's Guidance for Reporting Toxic Chemicals: Polycyclic Aromatic Compounds Category

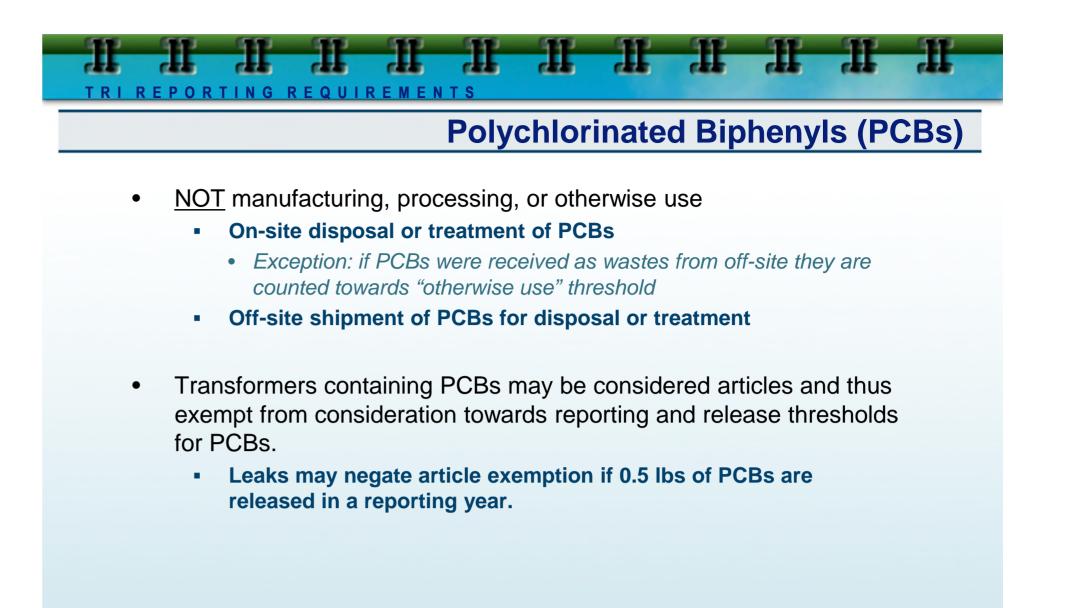


- Present in some switches and lights
 - Bulbs and switches may qualify as articles for which the articles exemption would apply IF less than 0.5 pound of Section 313 chemicals are released from all like items as a result of processing or use of the items during the year
- Mercury may be present in measurement devices such as thermometers or manometers. The addition of mercury to these devices needs to be considered in threshold and release calculations.
- Present in Caustics/Acids (if produced in mercury cell process not common)
- May be present in mined ores



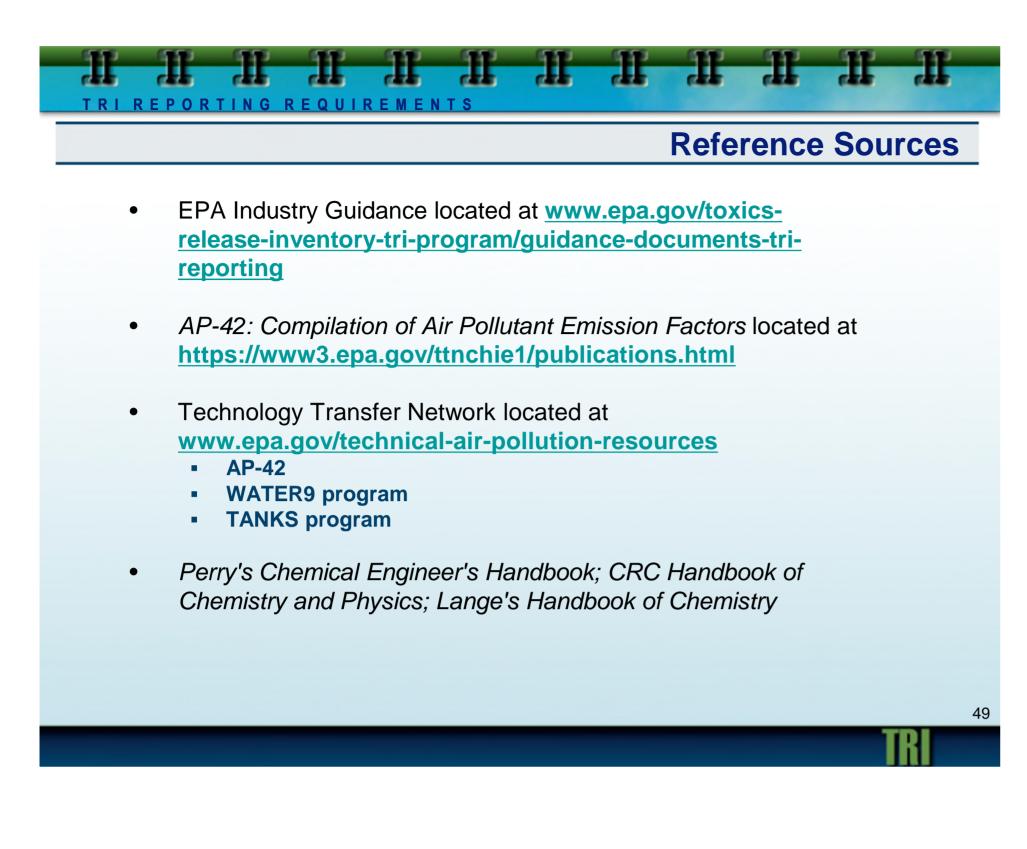
- PBT activity threshold: 10 pounds
- Manufacturing: PCBs may be manufactured as a product of incomplete combustion (PIC)
- Otherwise use:
 - On-site treating or disposing PCB-contaminated waste received from off-site
 - Combusting PCB-contaminated oil







- TRI website for reporting materials and guidance
- Includes:
 - Electronic versions, or links to electronic versions, of the statutes, regulations, executive orders, chemical-specific guidance documents, and industry-specific guidance documents
- TRI GuideME
 - Browse frequently asked questions and answers
 - Browse guidance materials
 - Available at: <u>http://epa.gov/tri/guideme</u>





- TRI Technical Support
 - For technical questions related to TRI-MEweb and the Central Data Exchange (CDX), please contact the CDX Hotline at helpdesk@epacdx.net or call toll-free at (888) 890-1995.
- TRI Information Center
 - Provides a toll free number that facilities may call to obtain guidance on TRI reporting requirements and help on completing the TRI reporting forms.
 - The number is (800) 424-9346. Callers in the Washington, D.C. metropolitan area call (703) 348-5070. The TDD is (800) 553-7672.



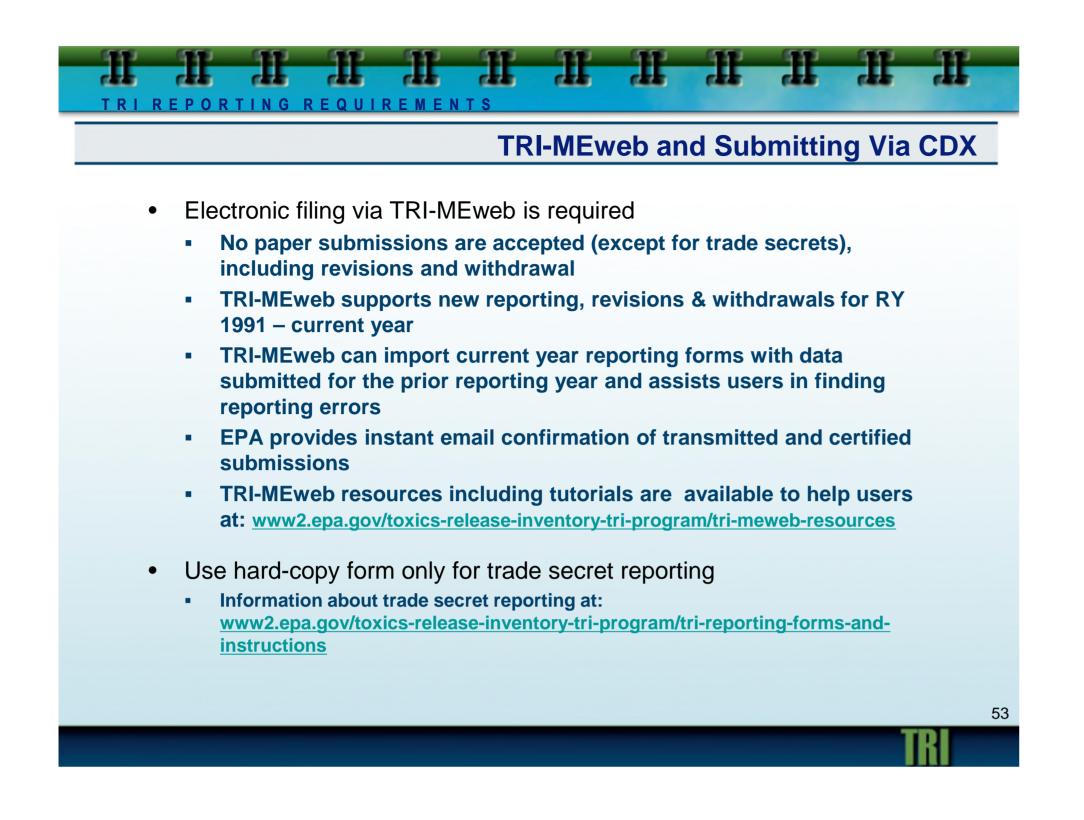
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- Visit the new TRI Pollution Prevention web page
 - www.epa.gov/tri/p2
- Pollution Prevention Information Clearinghouse (PPIC)
 - (202) 566-0799
 - <u>www.epa.gov/ppic</u>









- All non-trade secret forms must be certified by an electronic signature from a senior management official
- New certifying officials must submit an electronic signature agreement (ESA) and a facility certification agreement form before pending submissions can be certified
- Returning certifying officials do not need to submit an ESA as long as they continue to represent the same facility year to year
- TRI-MEweb now includes a built-in Certification module, accessible by users registered as certifying officials
- New certifying officials will answer personalized security questions in addition to their CDX password for digital procedures



Accessing TRI-MEweb

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• TRI-MEweb is accessed through EPA's Central Data Exchange (CDX)

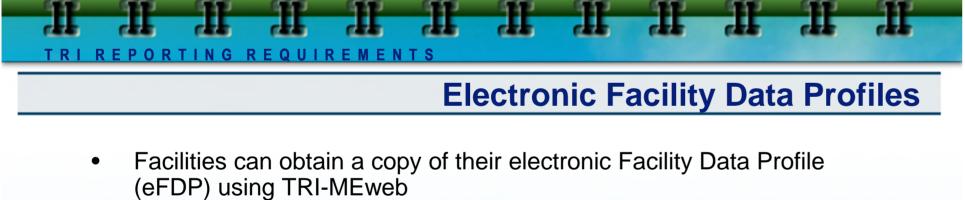
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- CDX is accessed through: https://cdx.epa.gov
- TRI-MEweb users must have a CDX account
- Select TRI-MEweb user role: preparer or certifying official
- Within TRI-MEweb, new users must gain access to their facility
 - Option 1: New facility, never reported to TRI
 - Option 2: Enter six-digit facility access code
 - Option 3: Enter TRIFID and Technical Contact Name
- For assistance with accessing your facility, contact the CDX helpdesk at helpdesk@epacdx.net or call toll-free at (888) 890-1995.



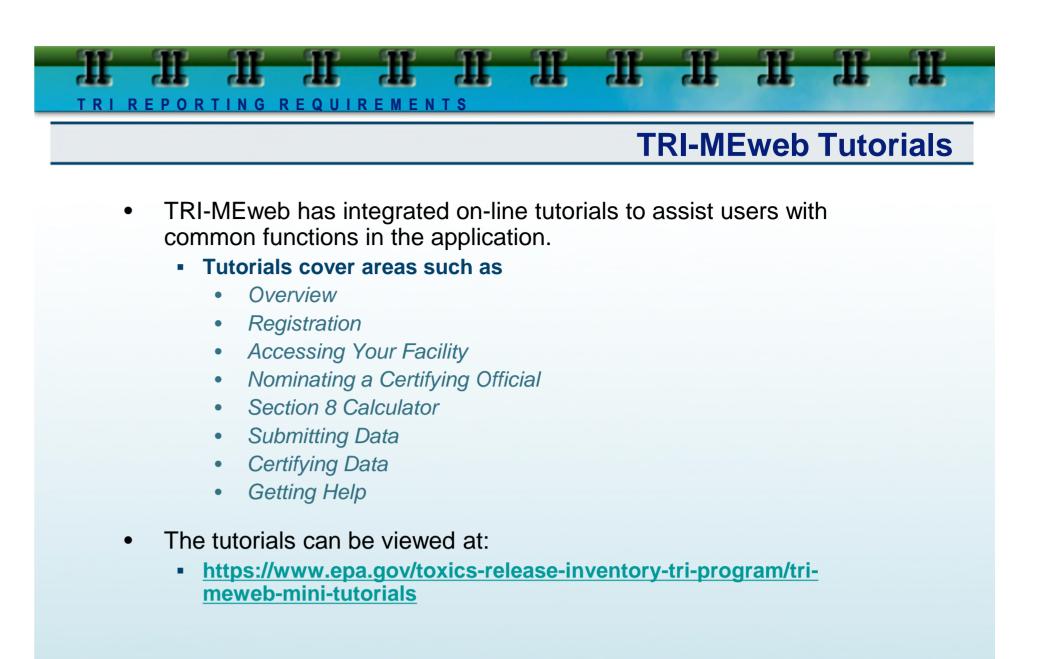
Signing and Certifying Forms

- New Certifying officials must complete the following two requirements
 - Electronic signature agreement (ESA)
 - Must be completed only once, not annually, applicable to all facility profiles
 - Option 1: Real-time ESA approval verify user's identity electronically
 - Option 2: Mail in signature form minimum of 5 business days to process
 - TRIFID Certification Agreement Form
 - Must be completed after access to TRI-MEweb is granted by ESA approval
 - Facility profiles are added to TRI-MEweb using access keys or prior year information
 - Certifying officials must have a digitally signed TRIFID Certification Agreement for each facility profile before access to any pending submission (s) for certification is granted.
- New certifying officials must submit an ESA and digitally sign a TRIFID certification agreement form before pending submissions can be reviewed and certified



- Review your eFDP immediately after certifying TRI forms in CDX to verify that EPA processed your data correctly
- The eFDP provides an opportunity to review data submitted to EPA
- Allows EPA to highlight errors and possible issues with your submission
- You MUST provide a Technical Contact email address on your TRI forms to receive real-time notification of eFDP availability
- If you have problems accessing your eFDPs, contact:
 - E-mail: tri.efdp@epacdx.net

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If you are viewing an Online Training Module, please visit <u>www.epa.gov/tri</u> to view the TRI-MEweb tutorials.

