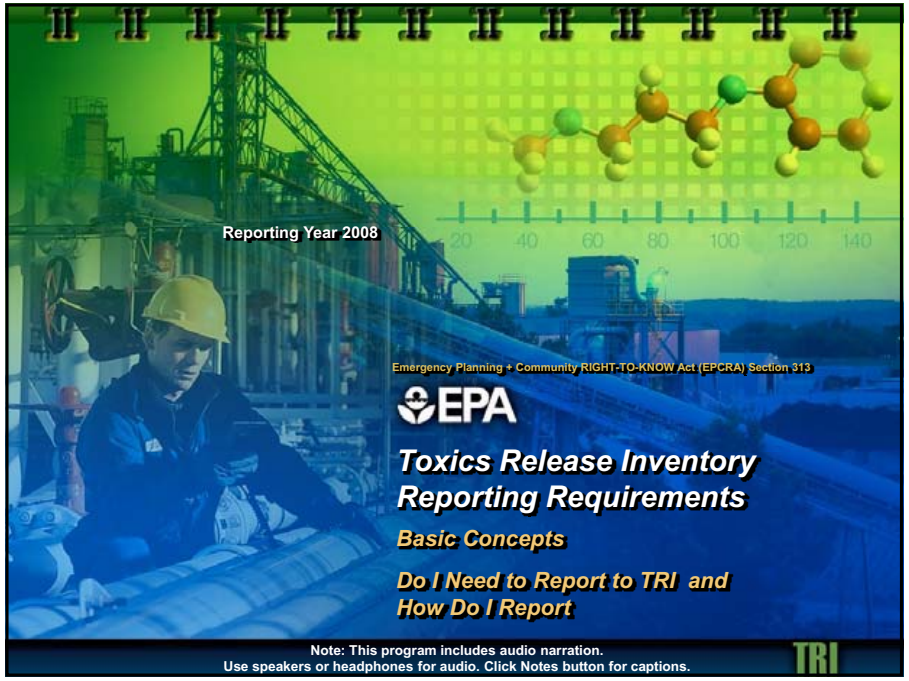


TRI Concepts Agenda

Fundamentals Concepts

1. Announcing *TRI-MEweb*!
2. Do I Need to Report?
3. Covered Chemicals
4. Threshold Activities
5. Threshold Determinations
6. Reporting Exemptions
7. TRI Reporting Forms
8. *TRI-MEweb* Updates and Demo (Web-based Only)

Advanced Concepts

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

Announcing *TRI-MEweb*!

- Available to all facilities in all states in Reporting Year 2008 (RY2008)
  - **Including first time filers with EPA**
    - *A first time filer is a facility that has never reported to EPA previously and does not have a TRI facility ID (TRIFID)*
- Technical contacts as reported in RY2007 will receive an email or regular mail with information to register with CDX/*TRI-MEweb* and a facility access key in March 2009
  - **If you did not receive notification and are the technical contact for your facility, contact the CDX Help Desk at 1-888-890-1995 to obtain your facility's access code**
- Beginning in RY2009, *TRI-MEweb* will completely replace *TRI-ME desktop*; therefore, after RY2008, facilities will no longer have the option of using *TRI-ME desktop* for TRI reporting

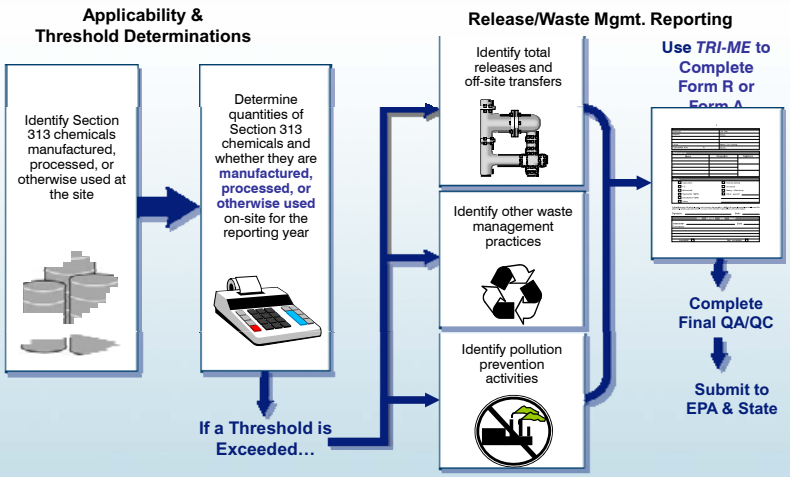
What is EPCRA Section 313 & TRI?

- Section 313 of EPCRA requires facilities to file a TRI report for each Section 313 chemical exceeding an activity threshold (manufacturing, processing or otherwise using)
  - **Section 313 chemical list contains over 600 chemicals and chemical categories**
- Submit TRI reports to U.S. EPA, and either
  - **designated state officials, or**
  - **designated tribal office**

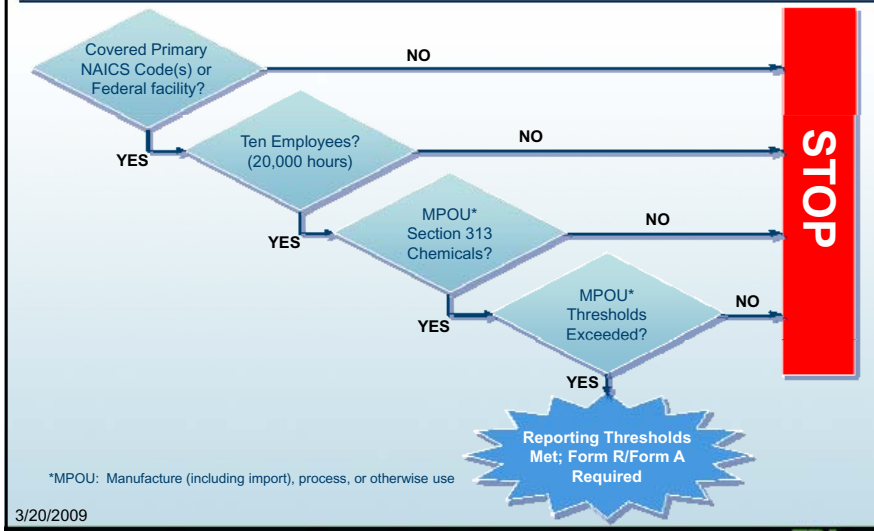
  …….by July 1st following the calendar year's activities (aka Reporting Year (RY))

  [e.g. July 1, 2009 deadline for RY 2008 (January 1 - December 31, 2008) activities]

TRI Process – 2 Part Process



TRI Reporting Process



*MPOU: Manufacture (including import), process, or otherwise use

Old SIC Codes Covered

Industrial Sector	Primary SIC Code
Manufacturing	20-39
Metal mining	10 (except 1011, 1081, and 1094)
Coal mining	12 (except 1241)
Electrical utilities	4911, 4931, and 4939, limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce
Treatment, Storage, and Disposal facilities	4953, limited to facilities regulated under the Resource Conservation and Recovery Act, Subtitle C, 42 U.S.C. Section 6921 et seq.
Solvent recovery services	7389, limited to facilities primarily engaged in solvent recovery services on a contract or fee basis
Chemical distributors	5169
Petroleum bulk terminals	5171

Covered NAICS Codes

- 2007 NAICS codes were adopted for TRI reporting for Reporting Year 2008 (June 6, 2008, 73 FR 32466)
- No 1:1 correlation between SIC and NAICS codes
- List of TRI-covered NAICS codes is lengthy with numerous exceptions & limitations
- Refer to 40 C.F.R. §372.22 for a list of NAICS facilities required to report to TRI
- Consult the SIC-NAICS crosswalk tables found at www.epa.gov/tri/lawsandregs/naic/ncodes.htm to determine your facility's NAICS codes

Federal Facilities

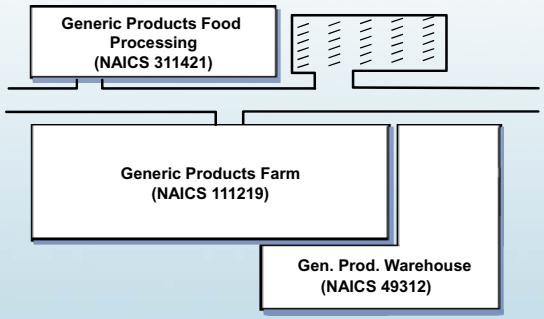
- Federal facilities (covered by Executive Order 13423 and its implementing instructions)
  - **Owned or operated by Executive Branch agencies**
    - *No restrictions based on NAICS code*
    - *Includes federal prisons, national parks, federal hospitals*
  - **With 10 or more full-time employees (equivalent of 20,000 hours per year)**
  - **That exceed manufacture, and/or process, and/or otherwise use thresholds of a listed chemical**
  - **Government unit responsible for reporting on activities conducted at Federal facilities**

Definition of "Facility"

- "Facilities" determine whether or not TRI reporting is required
  - **Primary NAICS code determination at facility level**
  - **Employee threshold determination at facility level**
  - **Chemical threshold determinations made at facility level**
- "Facility - all buildings, equipment, structures, and other stationary items which are located on a single site or on contiguous or adjacent sites and which are owned or operated by the same person (or by any person which controls, is controlled by, or under common control with, such person)." (EPCRA §329 (4))

Example of a Multi-Establishment Facility

- Three separate establishments located on contiguous/ adjacent property owned by same person(s), is one facility under EPCRA (40 C.F.R. §§372.22(b) and 372.3))
  - Establishment - unique and separate economic unit of a facility (See 40 C.F.R. §372.3)

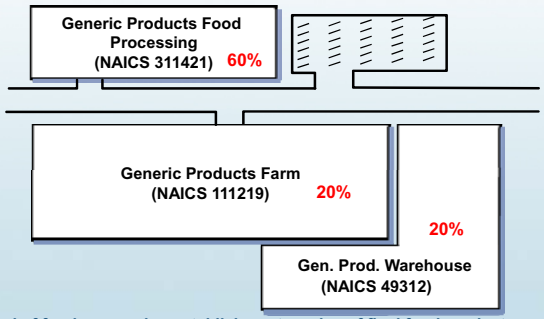


Multi-Establishment Facility

- Three separate establishments located on contiguous/ adjacent property owned by same person(s), is one facility under EPCRA (40 C.F.R. §§372.22(b) and 372.3))

NAICS determination by:

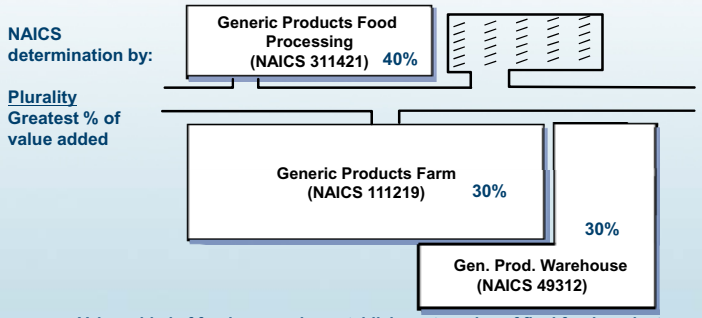
Majority >50% of value added



Value added of food processing establishment = value of final food products – value of warehousing – value of farm products.

Multi-Establishment Facility

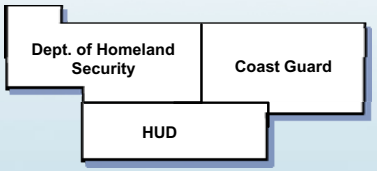
- Three separate establishments located on contiguous/ adjacent property owned by same person(s), is one facility under EPCRA (40 C.F.R. §§372.22(b) and 372.3))



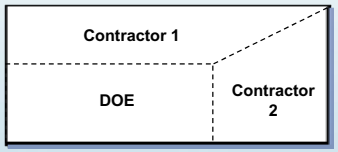
Value added of food processing establishment = value of final food products – value of warehousing – value of farm products.

Multi-Establishment Facility

- Determining how facilities report
  - **Federal facilities and government-owned, contractor-operated facilities (GOCOs)**
  - **See Appendix A of *Reporting Forms and Instructions* for guidance specific to federal facilities**



Ex. 1: Two separate reporting facilities (HUD and DHS including Coast Guard)



Ex. 2: One reporting facility (DOE)

Employee Threshold

- 10 or more full-time employee equivalents (i.e., 20,000 hours) (40 C.F.R. §§372.3 and 372.22(a))
  - **Worked for the facility**
  - **Includes operational staff, administrative staff, contractors, dedicated sales staff, company drivers, off-site direct corporate support**
  - **Does NOT include contract drivers or janitorial contractors**
  - **Add all hours from part-time and full-time employees**
- Determinations based on available time management systems/data

Quiz #1 Question 1

1. Would the facility described below be covered by TRI and, therefore, need to consider its chemical use for possible reporting? Select Yes or No.

   A manufacturing facility, owned by ABC Corporation, with 100 full-time employees

   YES NO

Quiz #1 Question 2

2. Would the facility described below be covered by TRI and, therefore, need to consider its chemical use for possible reporting?
   Select Yes or No.

   A maintenance and warehouse facility, owned by ABC Corporation, with 5 full-time employees, a few blocks away from the manufacturing facility described in Question 1.

   YES NO

Quiz #1 Question 3

3. Would the facility described below be covered by TRI and, therefore, need to consider its chemical use for possible reporting? Select Yes or No.

   A maintenance and warehouse facility, owned by ABC Corporation, with 5 full-time employees, next door to the manufacturing facility described in Question 1

   YES NO

Thresholds (PBT and Non-PBT)

- Threshold calculations for each activity are based on cumulative quantities of each Section 313 chemical over the reporting year
- Chemical activity thresholds are mutually exclusive
  - **Classify each chemical activity into manufacture, process, or otherwise use**
  - **Compare amounts in each activity to its threshold**

If any threshold is exceeded, a TRI Report must be prepared and submitted for that chemical

Section 313 Chemicals (Non-PBT) and Thresholds

- A facility meeting all applicable criteria 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*
- **Otherwise Used** more than *10,000* pounds of the chemical in the reporting year

Listed PBT TRI Chemicals

- Within the list of 600+ chemicals and chemical categories, there is a subset designated as being of special concern and often referred to as PBT chemicals (40 C.F.R. § 372.28)
- PBT chemicals have lower thresholds and different reporting requirements than the other TRI chemicals
  - **Special rules often apply to PBT chemicals**
- 20 chemicals and chemical categories are subject to the PBT and lead rules

PBT = Persistent, Bioaccumulative, Toxic

PBT Chemicals and Thresholds

- PBT chemicals are subject to separate and lower thresholds (See 40 C.F.R. § 372.28)

PBT Thresholds

- **100 lbs./yr (manufactured, processed, or otherwise used)**
  - *Aldrin*
  - *Lead**
  - *Lead Cmpds.*
  - *Methoxychlor*
  - *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*

•Excluding lead in stainless steel, brass, or bronze

Section 313 Chemicals and Chemical Categories

- Current list contains over 600 individual chemicals and chemical categories (See Table II of the EPA's TRI Reporting Forms and Instructions document (RFI)). There are 4 parts to the chemical list:
  - **Individual chemicals alphabetically by name**
  - **Individual chemicals by CAS #**
  - **Chemicals with qualifiers**
  - **Chemical categories**
- The list can change – check every year. Changes listed in the front of the RF&I, on the reporting disk, in *TRI-ME*, *TRI-MEweb*, and on the TRI website.

Section 313 Chemicals With Qualifiers

- Qualifiers - Listed chemicals with parenthetic qualifiers subject to TRI reporting only if manufactured, processed, or otherwise used in specified form (40 C.F.R. §372.25(g)). Below are some examples (see Table II of EPA's *TRI Reporting Forms and Instructions* document):

Chemical	CAS #	Qualifier
Aluminum	7429-90-5	Fume or dust
Aluminum Oxide	1344-28-1	Fibrous forms
Asbestos	1332-21-4	Friable forms
Isopropyl alcohol	67-63-0	Only manufacturers using strong acid process
Phosphorus (not phosphate)	7723-14-0	Yellow or white
Saccharin	81-07-2	Manufacture only
Hydrochloric acid	7647-01-0	Acid aerosols
Sulfuric acid	7664-93-9	Acid aerosols
Vanadium	7440-62-2	Except when contained in alloy

TRI Chemical Categories

- Example metal compound chemical categories
  - Antimony Compounds
  - Arsenic Compounds *
  - Barium Compounds
  - Beryllium Compounds
  - Cadmium Compounds
  - Chromium Compounds
  - Cobalt Compounds **
  - Copper Compounds
  - ***Lead Compounds***
  - Manganese Compounds
  - ***Mercury Compounds***
  - Nickel Compounds
  - Selenium Compounds
  - Silver Compounds
  - Thallium Compounds
  - Vanadium Compounds
  - Zinc Compounds

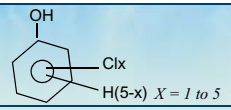
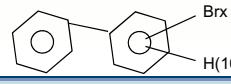
For all categories: Includes any unique chemical substance that contains the element or compound as part of that chemical's infrastructure

* *Does not include Barium Sulfate CAS 7727-43-7*

** *Does not include copper Phthalocyanine compounds that are substituted with only hydrogen, and/or chlorine and/or bromine*

Note: Elemental metals and metal compounds are separately listed chemicals under Section 313.

EPCRA TRI Chemical Categories *(continued)*

Chlorophenols	
Cyanide Compounds	XCN where X=H or any other group where a formal dissociation may occur. For example, KCN or Ca(CN)2
Diisocyanates	20 individual compounds cited in Category
Dioxin and Dioxin-Like Compounds:	17 individual compounds cited in Category
Ethylenebisdithiocarbamic acid, salts and esters (EBDCs)	Includes a substance that may contain EBDC or EBDC salt or ester as part of its infrastructure
Certain Glycol Ethers	Complex definition
Nicotine and salts	Includes a substance that may contain it or *salt as part of its infrastructure*
Nitrate compounds	water dissociable, reportable only when in *aqueous solution*
Polybrominated Biphenyls (PBBs)	

Manufacturing Activities

- Manufacturing (EPCRA §313(b)(1)(C)(i) and 40 C.F.R. §372.3) - generating a Section 313 chemical
  - **Intentionally producing chemicals for:**
    - *Sale*
    - *Distribution*
    - *On-site use or processing (e.g., intermediates)*
  - **Coincidentally producing chemicals as impurities* or byproducts**:**
    - *At **any point** at the facility, including waste treatment and fuel combustion*
  - **Importing**
    - *"Cause" to be imported*

**Impurity=TRI chemical that still remains with the final facility product as it is distributed into commerce*
***By-product=TRI chemical that is separated out from the process mixture before it becomes the final product*

Processing Activities

- Processing (EPCRA §313(b)(1)(C)(ii) and 40 C.F.R. §372.3) - preparation of a Section 313 chemical, after its manufacture, into a product for distribution in commerce:
  - **Use as a reactant to manufacture another substance or product**
  - **Add as a formulation component**
  - **Incorporate as an article component**
  - **Repackage for distribution**
    - *Including quantities sent off-site for recycling*
  - **Incidentally include as an impurity**

Repackaging as a Processing Activity

- Repackaging a Section 313 chemical for distribution in commerce is considered processing
  - **Repackaging includes transfer:**
    - *From container to tanker truck and vice versa*
    - *Between similar size containers*
    - *Via pipeline to/from a tank*
  - **Repackaging does not include:**
    - *Sampling without repackaging*
    - *Re-labeling*
- Repackaging without distribution into commerce is not considered processing

Otherwise Use Activities

- Otherwise Use (40 C.F.R. §372.3) - includes most activities that are NOT manufacturing or processing.

Examples

- **Chemical processing aid (e.g., solvents)**
- **Manufacturing aid (e.g., lubricants, refrigerants)**
- **Ancillary activities (e.g., chemicals used to remediate wastes)**
  - *Fabrication and/or use of tools in your process*
  - *Installation of piping and process-related equipment, e.g., constructing storage tanks*

Otherwise Use Activities *(continued)*

Managing wastes received from off-site also counts as "Otherwise Use"

- **Disposal, stabilization (without subsequent distribution in commerce), or treatment for destruction on-site if:**
  - *Section 313 chemical was received from off-site for the purposes of further waste management, or*
  - *Section 313 chemical was manufactured as a result of waste management activities on materials received from off-site for the purpose of further waste management.*
- **Waste management activities include recycling, combustion for energy recovery, treatment for destruction, waste stabilization and release (including disposal).**

Calculating Activity Thresholds

- The threshold quantity is the total amount manufactured, processed, or otherwise used, NOT the amount released.
- Calculate the total amount of Section 313 chemical used for a specific threshold activity
- For threshold determinations, Section 313 chemicals recycled from spent or contaminated materials or Section 313 chemicals directly reused:
  - **Count original amount used only once**
  - **Materials in use from previous years, count only the quantity added during current reporting year**
- Calculations for reporting waste management may be different.

Threshold Determination for Compound Categories

- Count together all compounds that fall within a category for each activity, even if different compounds within a category are used in separate operations
- Consider the entire weight of the compounds in the category when determining thresholds
- Note: calculations for release and other waste management estimates of metal compounds based on the parent metal weight only; and for nitrate compounds are based on weight of nitrate ion only

Activities That Are Not TRI Threshold Activities

- Activities that, alone, do NOT constitute a threshold activity
  - **Storage**
  - **Remediation of on-site contamination (assuming no listed chemicals are manufactured during remediation)**
  - **Re-labeling without repackaging**
  - **Direct reuse onsite**
  - **On-site recycling (not including wastes received from off-site)**
  - **Transfers sent off-site for further waste management (not including recycling)**

Note: While these activities are not included in the threshold determination, releases and wastes from these uses are not exempt from reporting if threshold is exceeded through other activities (unless specifically eligible for one of the reporting exemptions).

Quiz #2 Question 1

1. A plant uses benzene as a raw material to manufacture liquid industrial adhesive for sale. The plant adds 27,000 lbs. of benzene to its liquid adhesive-making operation during the reporting year, but 3,000 lbs. are volatilized during the operation. How much of the benzene should be applied toward the processing activity threshold? Select your choice.

A. 27,000 lbs.
B. 24,000 lbs.
C. 3,000 lbs.

Quiz #2 Question 2

2. If a facility processes 20,000 lbs. of 2-Butoxyethanol in one operation and 10,000 lbs. of 2-(2-Butoxyethoxy)ethanol in another operation during the reporting year, what should it apply towards it's processing threshold for glycol ethers? Select your choice.

A. 10,000 lbs.
B. 20,000 lbs.
C. 30,000 lbs.

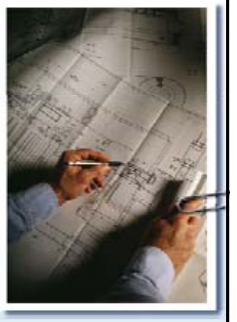
Quiz #2 Question 3

3. A facility processes 18,000 lbs. copper sulfate, 10,000 lbs. of cuprous oxide, and otherwise uses 12,000 lbs. of aqueous sulfuric acid solution. For which TRI chemicals or chemical categories would the facility need to submit a TRI form? Select your choice.

   A. copper compounds and sulfuric acid
   B. only copper compounds
   C. only sulfuric acid

Reporting Exemptions

- If an exemption applies, then the amount of Section 313 chemical subject to the exemption does NOT have to be included in:
  - **Threshold determinations**
  - **Release reporting**
  - **Supplier notification**
- Recognize that exemptions only apply to certain limited circumstances



Reporting Exemptions

- Types of exemptions (40 C.F.R. §372.38)
  - ***De minimis***
  - **Article**
  - **Laboratory activities**
  - **NAICS code specific**
    - *Coal mining extraction activities*
    - *Metal mining overburden*
  - **"Otherwise use" exemptions**
    - *Motor vehicle maintenance*
    - *Routine janitorial or facility grounds maintenance*
    - *Structural components*
    - *Personal use*
    - *Intake water and air*

De Minimis Exemption

- The quantity of a non-PBT Section 313 chemical in a mixture or other trade name product is eligible for the *de minimis* exemption (40 C.F.R. §372.38(a)) if the chemical is:
  - **An OSHA-defined carcinogen present at a concentration of less than 0.1% by weight (See 29 C.F.R. §1910.1200(d)(4))**

  OR

  - **Any other non-PBT TRI chemical present at a concentration of less than 1% by weight**
- The TRI *de minimis* level appears next to each chemical on the chemical list in Appendix II of the *TRI Reporting Forms and Instructions* (1.0, 0.1 or * for PBT chemicals where *de minimis* is not allowed (See 40 C.F.R. §372.38(a)))

De Minimis Exemption

HOW IT WORKS…

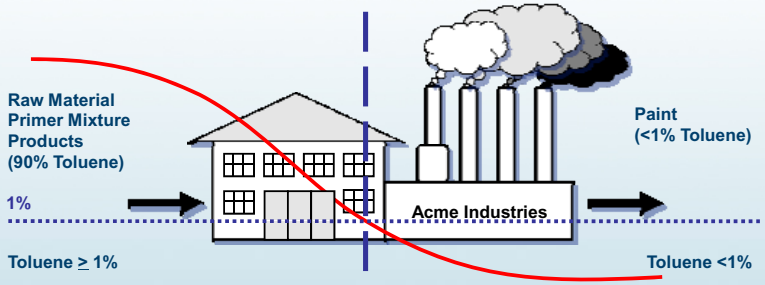
- *De minimis* exemption <u>can</u> apply to non-PBT chemicals:
  - **In mixtures or trade name products processed or otherwise used**
  - **Only 2 manufacturing activities:**
    - *Coincidentally manufactured as impurities that remain in products*
    - *Imported in mixtures or other trade name products*
- *De minimis* exemption <u>DOES NOT</u> apply to:
  - **Manufactured chemicals (in most cases): this includes by-products produced from manufacturing, processing, otherwise use, or any waste management**
  - **Wastes received from off-site**
  - **PBT chemicals (except for supplier notification)**

PBT Chemicals and the *De Minimis* Exemption

- PBT chemicals are not eligible for the *de minimis* exemption except for purposes of supplier notification.
  - **Even though a supplier is not required to notify users of the presence of a PBT chemical if it is below the *de minimis* concentration, the user is still required to consider all quantities of PBT chemicals if known to be present!**
- No other EPCRA section 313 exemptions were modified by the PBT rule.

De Minimis Exemption: How It Works… *(cont.)*

- Processing a non-PBT Section 313 chemical in a mixture to <u>below</u> the *de minimis* concentration does <u>NOT</u> exempt the chemical from threshold determinations and release calculations

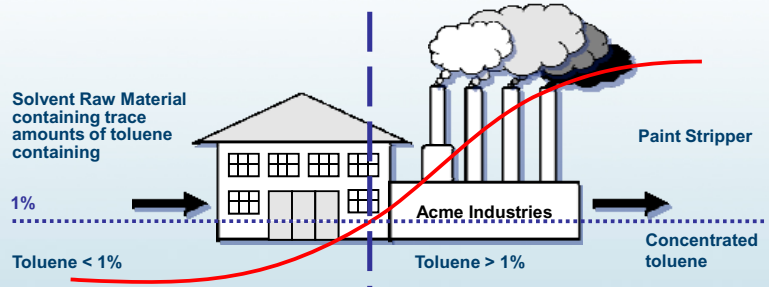


- *De minimis* exemption does <u>NOT</u> apply
- Threshold determination required
- Release calculations required

- *De minimis* exemption does <u>NOT</u> apply
- Threshold determination required
- Release calculations still required

De Minimis Exemption: How It Works… *(cont.)*

- Processing a non-PBT Section 313 chemical in a mixture to <u>above</u> the *de minimis* concentration triggers threshold determinations and, if thresholds are met, release calculation requirements



- *De minimis* exemption DOES apply
- Threshold determination not required
- Release calculations not required

- *De minimis* exemption does <u>NOT</u> apply
- Threshold determination required
- Release calculations still required

Determining Concentrations in Wastes

- *De minimis* exemption does NOT apply to wastes that are processed or otherwise used
- If concentration is exact, upper bound, range, or lower bound, use the guidance for mixtures and other trade name products
- If concentration is below detection limit, use engineering judgment:
  - **If the Section 313 chemical IS expected to be present, assume 1/2 of full detection limit**
  - **If the Section 313 chemical is NOT expected to be present, assume 0**

Article Exemption Applicability

- To qualify for the article exemption, the article must meet 3 criteria (40 C.F.R. §372.3):
  1. **Is formed into a specific shape or design during manufacture; and**
  2. **Has end-use functions dependent in whole or in part on its shape or design during end-use; and**
  3. **Does NOT release a Section 313 chemical under normal processing or use conditions at a facility**

Article Exemption: How it Works

- Releases of a Section 313 chemical from an article may negate the exemption. To maintain the article status, total releases from all like items must be:
  - **In a recognizable form; or**
  - **Recycled, directly reused; or**
  - **0.5 pound or less (may be rounded down to zero)**
- If more than 0.5 pound of a Section 313 chemical is released from all like items in a non-recognizable form and is not recycled or directly reused, none of the items meet the articles exemption
- The item must retain it's initial thickness or diameter in whole or in part to be exempt as an article
- See *TRI Reporting Forms and Instructions* for more on the article exemption

Article Exemption: Examples

- Wire is cut to specified lengths. Wastes include off-spec cuts and dust.
  - **Generation of off-spec cuts that are recognizable as articles will not, by themselves, negate the article status**
  - **Dust and off-spec cuts not recognizable as articles, with greater than 0.5 pound of ANY Section 313 chemical released, and not recycled or directly reused, negate the article status**
- Fluorescent light bulbs are installed containing mercury. The used bulbs are crushed for recycling.
  - **Crushing bulbs for disposal is not considered release during *normal* use; exemption is not negated**

Article Exemption

- Article Exemption is often inappropriately used!
  - **In many instances when metals are machined, cut, or ground, in any manner, the article exemption may not be applicable.**
- The articles exemption does not apply to the actual manufacturing of articles.

Laboratory Activity Exemptions

HOW IT WORKS…

- Section 313 chemicals used in these laboratory activities ARE exempt from threshold and release calculations (40 C.F.R. §372.38(d)):
  - **Sampling and analysis**
  - **Research and development**
  - **Quality assurance**
  - **Quality control**
- Section 313 chemicals used in these laboratory activities are NOT exempt:
  - **Specialty chemical production**
  - **Pilot-scale plant operations**
  - **Activities not conducted in lab**
  - **Support services**
    - *Photo processing*
    - *Equipment maintenance/cleaning*

Motor Vehicle Maintenance Exemption

- Section 313 chemicals used to maintain vehicles operated by the facility are eligible for the exemption from threshold determinations (40 C.F.R. §372.38(c)(4))
  - **"Otherwise use" exemption**
- Motor vehicles include cars, trucks, missiles, spacecraft, tanks, and forklifts
- Motor vehicle maintenance includes:
  - **Body repairs**
  - **Parts washing**
  - **Fueling and adding other fluids (e.g., ethylene glycol)**

***Note**: This exemption does NOT apply to "manufacture" of Section 313 chemicals from combustion of fuels.*

Routine Janitorial or Facility Grounds Maintenance Exemption

- Section 313 chemicals contained in products used for non-process related routine janitorial or facility grounds maintenance ARE eligible for exemption (40 C.F.R. §372.38(c)(2)):
  - **Phenol in bathroom disinfectants**
  - **Pesticides or fertilizers used on lawns**
  - **"Otherwise use" exemption**
- Section 313 chemicals used in the following 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**

Note: Chemicals otherwise used in janitorial or grounds maintenance activities may not be exempt if part of your facility's "process" is to provide these services (e.g., federal hospitals, prisons, parks).

Structural Component Exemption

- Section 313 chemicals used as structural components are eligible for exemption (See 40 C.F.R. §372.38(c)(1)) if they:
  1. **Are part of the facility structure; and**
  2. **Are NOT process related.**
- Non-process-related structural items eligible for the exemption:
  - **Potable water pipes and other non-process-related pipes and structures**
- Processed-related items/uses NOT eligible for the exemption:
  - **Refractory brick, boiler tubes, process-related pipes, anodes used in electroplating, grinding wheels, & metal working tools**
  - **Structural components that are integral to a non-industrial facility's "process" (e.g., federal prisons, hospitals, parks)**

Other Section 313 "Otherwise Use" Exemptions

- Section 313 chemicals contained in non-process related items for employee personal use (40 C.F.R. §372.38(c)(3))

  Non-federal Facilities:
  - **HCFC 22 in air conditioners used solely for employee comfort (exemption does NOT cover process cooling using chemical-based cooling systems)**
  - **Chlorine used to treat on-site potable water**
  - **Phenol used in a facility medical dispensary**

  Federal Facilities:
  - **Does not include TRI chemicals used for providing services to non-employees (e.g., patients in federal hospitals, prisoners, park visitors)**
- Section 313 chemicals found in intake water and air

Sector Specific Exemptions

- **Coal mining extraction activities** are exempt from threshold determinations and release reporting (40 C.F.R. §372.38(g)) (applies to NAICS Codes 212111-212113):
  - **Coal extraction: physical removal or exposure of ore, coal, minerals, waste rock, or overburden prior to beneficiation, and encompasses all extraction-related activities prior to beneficiation (40 C.F.R. §372.3)**
- Chemicals in **metal mining** overburden that are processed or otherwise used are specifically exempt from TRI reporting (40 C.F.R. §372. 38(h)) (applies to NAICS Codes 212221, 212222, 212231, 212234, 212299):
  - **Overburden: unconsolidated material that overlies a deposit of useful materials or ores (40 C.F.R. §372.3)**

Chemical Information Management

- Consider all activities and sources
- Tracking chemicals entering facility
  - **Purchasing/Inventory**
  - **Contractors**
  - **Capital purchases (e.g., chillers, process equipment)**
  - **Direct purchases (credit card or other emergency purchases)**
  - **Direct and indirect materials**
  - **Manufacturing byproducts/intermediates generated**
- Need cooperation and support from all functional groups
- Be comprehensive!

Threshold Determinations

- Identify Chemicals and Concentrations:
  - **MSDS**
  - **Product or Specifications**
  - **Available Supplier/Vendor Product QA/QC data**
  - **Industry Standards (API, ASTM, etc.)**
  - **Waste Profiles**
  - **Process Knowledge**
  - **Other References (AP-42, WebFIRE, Merck Index)**
  - **Supplier Notification**
- Collect Data to Calculate Thresholds:
  - **Inventory or Purchase Records**
  - **Throughput/Production Data**
  - **Integrated Supplier Records**
  - **EPCRA or Other Env. Reports**
  - **Air Permits / MACT or Similar Standards / Emission Inventories**
  - **Water Permits / DMR's / Discharge Reports**
  - **Annual/Biennial Waste Reports**
  - **User Records**
  - **Other Vendor Records (can call vendor)**

TRI Chemicals Contained in Mixtures

- For the threshold quantity, only include the portion of the TRI chemical in the mixture, not the weight of the entire mixture.
- The *de minimis* exemption (40 C.F.R. §372.38(a)) applies to non-PBT chemicals contained in mixtures at less than 1.0% or 0.1% (for carcinogens).
  - **The *de minimis* exemption is related to the concentration of the chemical in a mixture, NOT the quantity of the mixture used.**
- A metal alloy can be thought of as solid solution. To determine threshold quantity, multiply the concentration of the TRI chemical in the alloy by the total weight of alloy processed or otherwise used.

Determining Concentrations in Wastes

- *De minimis* exemption does NOT apply to wastes that are processed or otherwise used
- If concentration is exact, upper bound, range, or lower bound, use the guidance for mixtures and other trade name products discussed earlier
- If concentration is below detection limit, use engineering judgment:
  - **If the Section 313 chemical IS expected to be present, assume 1/2 of full detection limit**
  - **If the Section 313 chemical is NOT expected to be present, assume 0**

Determining Concentrations in Mixtures or Other Trade Name Products

- Determine whether thresholds were exceeded for listed chemicals in a mixture if you know (40 C.F.R. §372.30(b)(3)):
  - **Exact concentration - use concentration provided:**
    - *MSDS = 25%* *Use 25%*
  - **Upper bound - use upper limit**
    - *MSDS < 25%* *Use 25%*
  - **Range - use the midpoint of the range**
    - *MSDS: 30 – 50%* *Use 40%*
  - **Lower bound - subtract out other known constituents, create a range, and use the midpoint of range**
    - *MSDS: >75% toxic chemical* *Use 87.5% (top of range = 100%)*
    - *MSDS: >75% toxic chemical 15% water* *Use 80% (range = 75% - 85%)*

Supplier Notification

- Supplier notification (40 C.F.R. §372.45) - requires suppliers to covered facilities (See 40 C.F.R. §372.22) to:
  - **Identify Section 313 chemical(s) by name and CAS number**
  - **Identify Section 313 chemical(s) as being subject to Section 313 requirements**
  - **Provide concentration (or range) of Section 313 chemicals in mixtures and other trade name products (not wastes)**
  - **Provide notification at least annually in writing or attached to the MSDS**
  - **Update notification when changes occur**
- The Regulatory Information section of the MSDS should identify any chemicals that are subject to TRI reporting

Watch for Double Counting

- For threshold determinations, Section 313 chemicals recycled from spent or contaminated materials or Section 313 chemicals directly reused:
  - **Count original amount used only once**
  - **Materials in use from previous years, count only the quantity added during current reporting year**
- Section 313 chemicals stockpiled or in inventory but not manufactured, processed, or otherwise used during reporting year are NOT counted for threshold determinations

Chemicals sent off-site for recycling and returned to the facility are considered new materials and counted for threshold determinations

Watch for Double Counting Within the Same Activity Threshold!

- Example: If a chemical is blended into a product mixture, and then this mixture is packaged for sale into 55 gallon drums, these are both processing activities, the chemical is "processed" twice. Only count this quantity once towards the processing threshold.
  - **During Reporting Year, 20,000 lbs. of toluene were blended with other chemicals to create a paint product.**
  - **The paint product (containing the 20,000 lbs. of toluene) was then packaged into 55 gallons drums for sale.**
  - **The processing threshold quantity for this facility for Reporting Year = 20,000 lbs.**

Multi-Establishment Facility

- Reporting as multi-establishment facility (40 C.F.R. §372.30(c))
  - **Apply threshold determinations on aggregate amount of chemicals used at facility**
  - **Able to file separate Form R reports for each part of the facility (e.g., establishment or grouping of establishments) and the Form Rs must be designated as "part of a facility" in Part I, Section 4.2**
  - **Report all non-exempt releases and other waste management activities of reportable Section 313 chemicals for all parts of a facility**
  - **Avoid double-counting at the facility of chemicals involved in intra-facility transfers**

Example: *EPCRA Section 313 Non-PBT Chemical Reporting Threshold Worksheet*

Facility Name: OMNI CHEMICAL
Toxic Chemical or Chemical Category: Toluene
Reporting Year:
Date Worksheet Prepared:
Prepared By: J.S.P.

Step 1. Identify amounts of the toxic chemical manufactured, processed, or otherwise used.

Mixture Name or Other Identifier	Information Source	Percent by Weight	Total Weight (in lbs)	Amount of the Listed Toxic Chemical by Activity (in lbs): Manufactured	Processed	Otherwise Used
1. Joe's Degreaser	Purchasing	50	10,000			5000
2. Bathroom Paint	Vendor	5	30,000			1,500
3. Parts Washer Fluid	Purchasing	40	10,000			4,000
4.						
5.						
6.						
7.						
Subtotal:				(A) _____ lbs.	(B) _____ lbs.	(C) 10,500 lbs.

Step 2. Identify exempt forms of the toxic chemical that have been included in Step 1.

Mixture Name as Listed Above	Applicable Exemption	Note Fraction or Percent Exempt (if Applicable)	Exempt Amount of the Toxic Chemical from Above (in lbs): Manufactured	Processed	Otherwise Used
1. Bathroom Paint	Struct. Comp.	100			1,500
2.					
3.					
4.					
5.					
6.					
7.					
Subtotal:			(A_1) _____ lbs.	(B_1) _____ lbs.	(C_1) 1,500 lbs.

Step 3. Calculate the amount subject to threshold: (A - A_1) _____ lbs. (B - B_1) _____ lbs. (C - C_1) 9,000 lbs.

Compare to thresholds for section 313 reporting. 25,000 lbs. 25,000 lbs. 10,000 lbs.

If any threshold is met, reporting is required for all activities. Do not submit this worksheet with Form R. Retain for your records.

Lessons Learned

Begin early
- Implement a program to gather "real-time" data on usage
- Searches for historical information can be difficult

Team approach
- Include all relevant personnel (e.g., engineering, purchasing, environmental, waste management, operations)

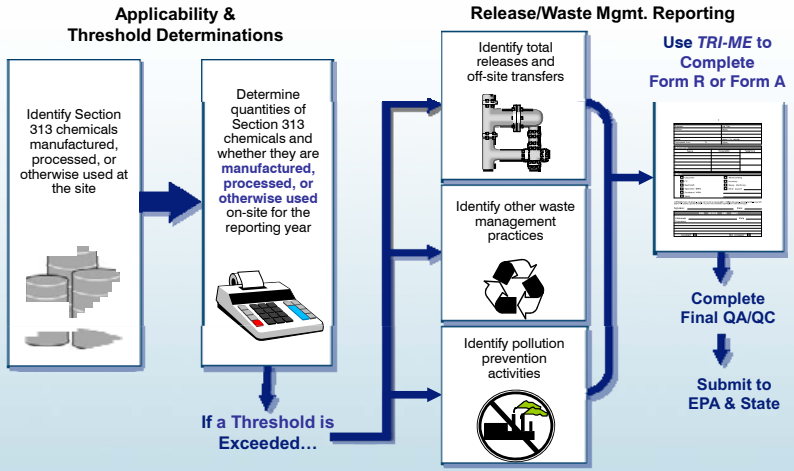
Recordkeeping & Documentation
- Reduces burden for future years threshold determinations and reporting

Record Keeping and Documentation

Importance of good record keeping
- Detailed records improve reporting accuracy and data quality
- Reduces replication of effort from year to year
- Well-labeled calculations and engineering assumptions serve as standard operating procedures (SOPs) for future years
- Ensures consistency from year to year, especially if personnel responsible for reporting change

EPA Requirements
- Records used to complete Form R must be kept for three years (40 C.F.R. §372.10)
- EPA may review records during a data quality audit

TRI Process – 2 Part Process



Overview of Form R

- Two principal types of information required
  - **Facility-specific**
  - **Chemical-specific**
- One form submitted to EPA and to the State/Tribe for each Section 313 chemical or chemical category exceeding applicable thresholds
- "Old Days" – Paper Form
- "Now" – Electronic Filing (e.g., *TRI-MEweb* and *TRI-ME desktop*)

Form R Content

Part I	
Section 1:	Reporting Year
Section 2:	Trade Secret Information
Section 3:	Certification
Section 4:	Facility Identification
Section 5:	Parent Company Info
Part II	
Section 1:	Toxic Chemical ID
Section 2:	Mixture Component ID
Section 3:	Activities & Uses
Section 4:	Max Amt on site for CY
Section 5:	On-site Releases
Section 6:	Off-site Releases
Section 7:	On-site Waste Treatment, Energy Recovery, Recycling Processes
Section 8:	Source Reduction and Recycling Activities

Facility Identification

- Section 4.1
  - **Mailing address required if different from street address**
  - **TRI facility identification number (if a form was filed in a previous reporting year) or "New Facility" (if reporting for the first time)**
  - **All establishments at one facility should use the same TRI facility identification number (if reporting separately)**
  - ***Federal facilities***
    - *Enter name of Federal department or agency standard acronym followed by the site name*
  - **Standard facility names are available through the Facility Registry System (http://www.epa.gov/enviro/html/fii/ez.html)**
- Section 4.2
  - **Specify whether the form covers all or part of the facility**
  - **Specify whether a Federal facility or "GOCO"**

Facility Identification *(continued)*

- Sections 4.3 and 4.4
  - **List name, phone number, and email**
    - *Technical contact - should be able to explain data to EPA*
    - *EPA encourages facilities to provide an email address for the technical contact*
    - *Public contact - should be able to represent the facility's data to the public*
- Section 4.5
  - **Enter covered 6-digit NAICS code(s)**
  - **Enter primary NAICS code**
  - **Enter other covered NAICS codes in decreasing order of significance**
  - **www.naics.com/search.htm**
- Section 4.6: Dun and Bradstreet number(s)

Parent Company Information

- Sections 5.1 and 5.2: Name of Parent Company and Parent Company D & B Number
  - **Private-sector and GOCO facilities:**
    - *Enter complete name and Dun & Bradstreet number of parent company*
  - **Federal facilities:**
    - *Enter the complete name of department or agency for parent company (e.g., U.S. Department of Interior)*
    - *Check "NA" for Dun & Bradstreet number of parent company*
  - **To identify the correct parent company: go up to the highest level of ownership within the U.S.**

Part II - Chemical-Specific information

- Sections 1 and 2: Toxic Chemical or Mixture Identity
- Select Chemical
  - **Select CAS number or category code and name of Section 313 chemical or chemical category (except on "sanitized" form); or**
  - **1.3: Enter generic name only if claiming Section 313 chemical name as a trade secret (40 C.F.R. 350); or**
  - **2.1: If supplier claims trade secret, report generic name by supplier**

Activities and Uses

- Section 3: Specify use(s) of the Section 313 chemical (e.g., manufacture, process, or otherwise use)
  - **Report only activities taking place at reporting facility**
  - **Check all applicable boxes**

Tools and Data Sources for Release Calculations

- Previous year Form R reports and documentation (if available)
- Process flow diagrams
- Environmental monitoring data
- Permit applications
- EPCRA, CERCLA, RCRA, NPDES, CAA and other env. reports
- Waste management manifests, invoices, and waste profiles
- Engineering calculations and other notes
- EPA guidance (AP-42, WebFIRE, TANKS, WATER9)

Estimating Quantities Released

- Consider all sources (routine and non-routine)
- Reasonable estimates are required by law
- Best approach by facility may need to be determined

Data and approach must be documented, and should be consistent!

Data Precision

- Values for non-PBT Section 313 chemicals must be entered in whole numbers
  - **EPA allows using <u>two significant figures</u> when reporting releases and other waste management estimates**
  - **If estimate is more precise, additional significant figures may be used based on precision of data used to calculate estimate**
  - **For estimates of non-PBT Section 313 chemicals under 1,000 pounds, a range code can be used:**
    - *A= 1-10 pounds; B = 11-499 pounds; C = 500-999 pounds*

Data Precision *(continued)*

- For PBT chemicals, report releases and other waste management quantities at a level of precision supported by the data and estimation techniques used
- For PBT chemicals, 0.1 pound (100 micrograms for dioxins) is the smallest amount required to be reported
  - **Estimates < 0.05 pounds (< 50 micrograms for dioxins) can be rounded down to zero pounds**
- *TRI-ME* will allow for decimal reporting for PBT chemicals (e.g., 9.3 pounds)

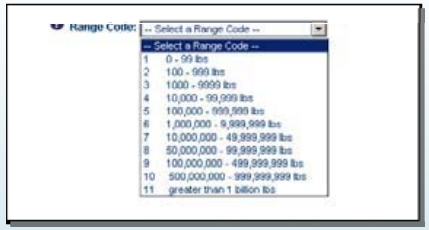
"NA" vs. "0"

- All data elements in Sections 5 and 6 must be completed. If you determine there there was no release or transfer quantity:
  - **Use "NA" (not applicable) when no possibility of the Section 313 chemical being released to or otherwise managed as waste in that media (e.g., facility has no on-site landfill)**

    <u>OR</u>
  - **Use "0" when no release occurs or < 0.5 pound of a non-PBT Section 313 chemical from a waste stream is directed towards that medium**
    - *Example: Discharge to water is zero; however, release possible if control equipment fails*
    - *Must indicate a Basis of Estimate code (i.e., M1, M2, C, E1, E2, O) for all numerical estimates, including "0"*

Maximum On-Site Amount

- Section 4: Select appropriate code indicating the maximum quantity on-site during the reporting year.



Use maximum total (non-exempt) amount present at one time during reporting year, even if the Section 313 chemical is present at more than one location at the facility

- **Based on amount in storage, process, and wastes**
- **May not be the same as Tier II maximum amount on site**
  - *Tier II is usually by mixtures, Form R is chemical-specific*
  - *Tier II excludes hazardous wastes, Form R does not*

Quantity Entering Each Medium

- Section 5: Report total releases of the Section 313 chemical to each environmental medium on-site (air, water, land)
- Enter Total Release, report total quantity
  - **A range code can be used for non-PBT Section 313 chemical quantities less than 1,000 pounds**
    - *A = 1 - 10 pounds*
    - *B = 11 - 499 pounds*
    - *C = 500 - 999 pounds*

Basis of Estimate Codes

- One of the following "Basis of Estimate" codes must be listed on the Form R for each release and waste management quantity reported:
  - **Continuous monitoring (M1)**
  - **Periodic or random monitoring (M2)**
  - **Mass balance calculation (C)**
  - **Published emissions factors (E1)**
  - **Site-specific emissions factors (E2)**
  - **Engineering calculations (O)**
    - *Everything NOT M1, M2, C, E1 or E2 above, such as:*
    - *Best engineering judgment*
    - *Estimated removal efficiencies*
    - *Non-chemical-specific and non-published emission factors*
  - **Use the code on the Form R for the method used to estimate the largest portion of the release**

Fugitive or Non-Point Air Emissions

- Section 5.1 Enter total fugitive releases of the Section 313 chemical, including leaks, evaporative losses, building ventilation, or other non-point air emissions
- Example Using a Mass Balance Basis of Estimate (C):
  - **5,000 lbs of a volatile solvent are added during the year as part of the manufacture of a liquid adhesive. 4,950 lbs of the solvent are contained in the final liquid adhesive product.**
    - *Input (5,000 lbs) = Output (4,950 lbs) + Air Loss (50 lbs)*
    - *Fugitive air emissions from this process = 50 lbs*

Law of Mass Balance:
What Goes In = What Comes Out

Estimating Releases When No Data Available (Fugitive)

- Example: Metal dust observed on floor near or within metalworking operation - indicates fugitive air emission occurring and possible transfer off-site; no additional data are available:
  - **Work with operations personnel familiar with the operation**
  - **Use best engineering judgment to estimate quantity released – document the basis of the judgment**
  - **Consider using a range code**

Stack or Point-Source Air Emissions

- Section 5.2: Enter total releases to air from point sources, including stacks, vents, pipes, ducts, storage tanks, or other confined air streams
- Data sources/tools
  - **Air permit applications**
  - **CAA Title V air inventories**
  - **Process and production data**
  - **Published emission factors**
  - **Facility-specific monitoring data and emissions factors**
- Example using an Emission Factor basis of estimate (E1):
  - **500,000 tons of coal are combusted in a fluidized bed combustor**
  - **EPA emission factor: 0.11 lb mercury emitted / 1,000,000 lb coal combusted**
  - **500,000 tons x 2,000 pounds / ton x (0.11 lb mercury / 1,000,000 lb coal) = 110 lbs. mercury**
  - **110 pounds of mercury are released through the stack**
  - **Note: A portion of mercury may be present in resulting ash and would need to be reported as such**

On-Site Wastewater Discharges

- Section 5.3: Releases to streams or water bodies
  - Enter the stream or water body to which your facility directly discharges the chemical
    - *If it does not have a name, enter the name of the first downstream water body that does.*
  - Enter the total amount of releases to each receiving stream or water body, including amounts from stormwater runoff, if available
  - Indicate the percentage of the total quantity (by weight) contributed by stormwater

Calculating Wastewater Discharges

- Part II, Section 5.3: Release to stream or water body and Part II, Section 6.1: Discharges to POTW
  - **Direct AND Indirect Discharges**
    - *Don't forget storm water!*
  - **If no monitoring data exists, estimate based on process knowledge and/or mass balance calculation**
- Data Sources
  - **DMRs (or related wastewater monitoring reports)**
  - **Other monitoring data such as permit applications**
  - **May be able to find official name of POTW via Enforcement & Compliance History Online (ECHO) or Facility Registry System**
    - *Visit: http://www.epa-echo.gov/echo/, or*
    - *http://www.epa.gov/enviro/html/fii/ez.html*

Calculating Wastewater Discharges

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

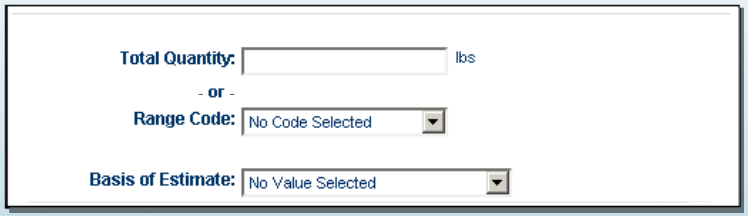
Date	Conc. (mg/l)	Flow (MGD)	Amt. (lbs/day)
3/1	1.0	1.0	8.33
9/8	0.2	0.2	0.33
EPA way		**Average =**	**4.33**
Other way		**0.6 mg/l x 0.6 MGD x 8.33 =**	**3.00**

MGD = million gallons per day 1 mg/l = 8.33 lbs/million gal

- Basis of Estimate Code: M2

On-Site Injection Wells

- Section 5.4.1 Underground injection to Class I wells
  - **Enter total amount of Section 313 chemical injected into Class I wells at facility and basis of estimate code**
- Section 5.4.2 Underground injection to Class II - V wells
  - **Enter total amount of Section 313 chemical injected into Class II - V wells at facility and basis of estimate code**



Note: Basis of estimate code must be entered.

Releases to Land On-Site

- Section 5.5: Quantity of the toxic chemical entering each environmental medium onsite
- Quantities released to air or water during the reporting year of the initial release to land (e.g., volatilization from surface impoundments) are not included here

SECTION 5. QUANTITY OF THE TOXIC CHEMICAL ENTERING EACH ENVIRONMENTAL MEDIUM ONSITE (continued)				
		NA	**A. Total Release** (pounds/year*)(enter range code or estimate**)	**B. Basis of Estimate** (enter code)
5.4.1	Underground Injection onsite to Class I Wells	☐		
5.4.2	Underground Injection onsite to Class II-V Wells	☐		
5.5	Disposal to land onsite			
5.5.1A	RCRA Subtitle C landfills	☐		
5.5.1B	Other landfills	☐		
5.5.2	Land treatment/application farming	☐		
5.5.3A	RCRA Subtitle C surface impoundments	☐		
5.5.3B	Other surface impoundments	☐		
5.5.4	Other disposal	☐		

* Other disposal (5.5.4) includes spills or leaks to land

Off-Site Transfers

- Includes both off-site location information and quantities of Section 313 chemicals transferred to off-site locations
- Report quantities of a Section 313 chemical sent off-site to any POTW or other location for recycling, energy recovery, waste treatment, or disposal
- Report only total quantity of a Section 313 chemical transferred off-site, not the quantity of entire waste stream mixture
- In Sections 6.1 and 6.2, Total Transfers, report total quantity
  - **A range code can be used for non-PBT Section 313 chemical quantities less than 1,000 pounds**
    - *A = 1 - 10 pounds*
    - *B = 11 - 499 pounds*
    - *C = 500 - 999 pounds*

Transfers to POTWs

- Section 6.1 Discharges to publicly owned treatment works
  - **Section 6.1A: Enter total quantity of the Section 313 chemical transferred to all POTWs and basis of estimate**
  - **Section 6.1.B: POTW name and location for each POTW**
- Example using an Engineering Calculations basis of estimate (O):
  - **A wet grinding process generates wastewater with 300 lbs of lead (contained in particulates) during the year. This wastewater undergoes on-site filtration prior to being sent to the POTW. Manuals from the filter equipment vendor indicate a 95% removal efficiency for particulates of this size.**
    - *300 x 0.95 = 285 lbs removed from the wastewater*
    - *300 – 285 = 15 pounds remaining in the wastewater after filtration*
    - *15 pounds of lead are transferred off-site to the POTW*

Other Transfers

- Section 6.2 Transfers to other off-site locations
  - **Include name, address, and EPA identification (RCRA ID) number of the receiving facility**
  - **Enter quantity, basis of estimate, and M code for each different waste management activity (waste treatment, disposal, recycling, and energy recovery)**
- Data/tools
  - **Waste manifests and vendor receipts**
  - **RCRA reports**
  - **Waste characterization - analyses, profiles**

Off-Site Waste Transfers

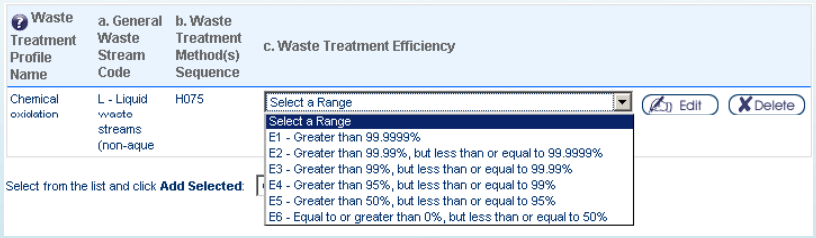
- Approach: ID potential sources --> ID data/tools --> estimate
- Potential off-site waste transfers of reportable chemicals
  - **Hazardous waste**
  - **Non-hazardous waste (e.g., waste oil and coolant)**
  - **Trash**
  - **Scrap metal (reuse versus recycle)**
  - **Container residue: RCRA empty is NOT EPCRA empty**
  - **BE COMPREHENSIVE!**
- Also need to be sure to identify ALL possible sources of waste composition data
- Identify final disposition of each Section 313 chemical:
  - **Disposal, waste treatment, energy recovery, recycling**

On-Site Waste Management

- Section 7: Examples of on-site waste management
  - **Air pollution control devices (Section 7A)**
  - **Wastewater treatment processes (Section 7A)**
  - **Energy recovery devices (Section 7B)**
  - **Recycling devices (Section 7C)**

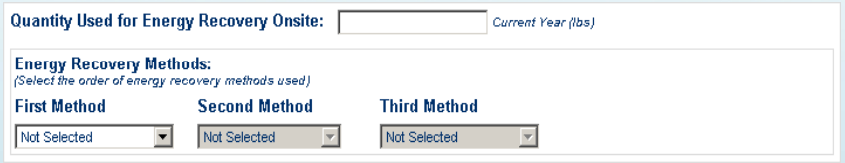
Waste Treatment Methods and Efficiency

- Report each waste treatment method that the Section 313 chemical undergoes
  - **Include even if method has no effect on the chemical**
- Only data element in Form R focusing on the entire waste stream rather than the Section 313 chemical in the waste stream



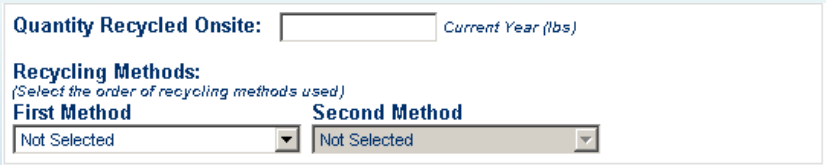
Energy Recovery Processes

- Enter on-site energy recovery methods for Section 313 chemical
  - **Section 313 chemical must be combustible and have a significant heating value (5,000 BTU/lb.)**
  - **Combustion unit is integrated into an energy recovery system (e.g., industrial furnace, industrial kiln, or boiler)**
- Enter codes in descending order by quantities combusted



Recycling Processes

- Enter methods used for on-site recycling of the Section 313 chemical
  - **Codes for recycling methods used are found in EPA's TRI Reporting Forms and Instructions document**
  - **Do not include energy recovery processes**
- Enter codes in descending order by quantities recycled

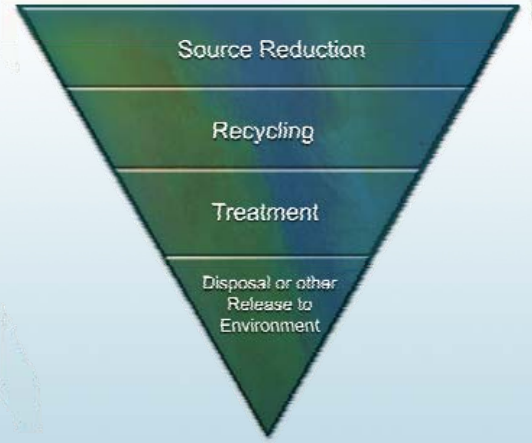


Release and Waste Management Estimates

- Helpful hints for accurate release estimates
  - **Always use your best available information**
  - **Estimate the quantity of Section 313 chemical, not the entire waste stream**
  - **Differentiate fugitive from stack air emissions**
  - **Zero air emissions for VOCs are unlikely**
  - **Watch out for releases of Section 313 chemicals with qualifiers**
  - **Check your math and document your work!**
- Result of release estimation errors
  - **Incorrect release estimates and inconsistencies could carry over from year to year**

Pollution Prevention Hierarchy

- Section 8 of Form R



Source Reduction (Section 8)

- The sum of sections 8.1 through 8.7 represents the total quantity of waste generated through regular production activities at your facility for the reporting year.

Waste Management Description	Prior Year (RY2006)	Current Year (RY2007)	Following Year (RY2008)		Second Following Year (RY2009)	
8.1a) Total on-site disposal...	0	0	0	NA	0	NA
8.1b) Total other on-site disposal...	390	410	400	NA	407	NA
8.1c) Total off-site disposal...	0	0	0	NA	0	NA
8.1d) Total other off-site disposal...	1050	1145	1100	NA	1068	NA
8.2) Quantity used for energy recovery onsite	0	0	0	NA	0	NA
8.3) Quantity used for energy recovery offsite	0	NA		NA		NA
8.4) Quantity recycled onsite	0	0	0	NA	0	NA
8.5) Quantity recycled offsite	0	NA		NA		NA
8.6) Quantity treated onsite	5000	5150	5100	NA	4970	NA
8.7) Quantity treated offsite	0	0	0	NA	0	NA

- *TRI-MEweb* and *TRI-ME desktop* includes a Section 8 Calculator feature and a validation program that compares your Form R, Section 8 estimates with Sections 5 and 6 estimates

Part II. Sections 8.1 - 8.7	
8.1a	**Total on-site disposal to Class I UIC wells, RCRA & other landfills** 5.4.1 + 5.5.1A + 5.5.1B – 8.8 (on-site release or disposal due to catastrophic event)
8.1b	**Total other on-site disposal or other releases** 5.1, 5.2, 5.3.1, 5.3.2, 5.3.3, 5.4.2, 5.5.2, 5.5.3A, 5.5.3B, 5.5.4 – 8.8 (on-site release or disposal due to catastrophic event)
8.1c	**Total off-site disposal to Class I UIC wells, RCRA & other landfills** Section 6.2, M64, M65, and M81 – 8.8 (off-site disposal due to catastrophic event)
8.1d	**Total other off-site disposal or other releases** 6.1 (for metals and metal category compounds only) + 6.2 (quantities associated with M codes M10, M41, M62, M66, M67, M73, M79, M82, M90, M94, M99) – 8.8 (off-site disposal due to catastrophic event)
8.3	**Off-site energy recovery** 6.2, M56 and M92 – 8.8 (off-site energy recovery due to catastrophic events)
8.5	**Off-site recycling** 6.2, M20, M24, M26, M28, and M93 – 8.8 (off-site recycling due to catastrophic events)
8.7	**Off-site treatment** 6.1 (excluding metals and metal category compounds), 6.2 (quantities associated with M codes M50, M54, M61, M69, M95) – 8.8 (off-site treatment due to catastrophic event)

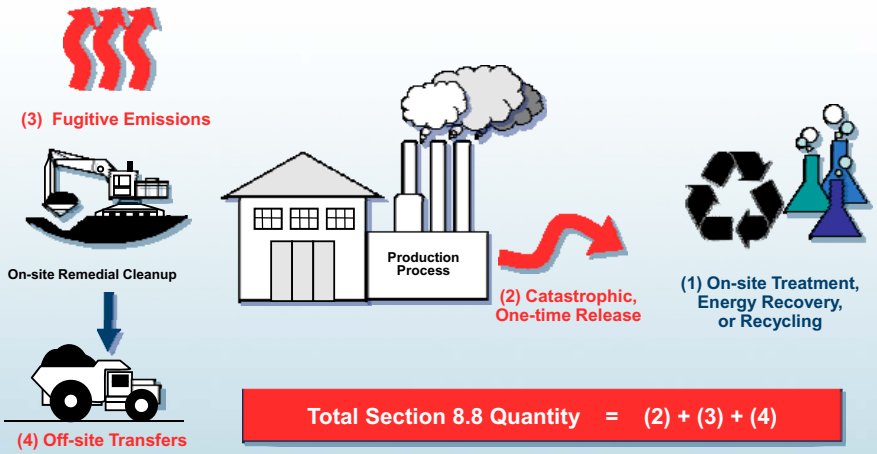
Section 8: Relationship to Section 7

Part II. Sections 8.1 - 8.7	
8.2	**On-Site Energy Recovery** • Determine quantity for activities described in 7B • Report quantity actually combusted in energy recovery unit (i.e., consider efficiency)
8.4	**On-Site Recycling** • Determine quantity for activities described in 7C • Report quantity actually recycled (i.e., consider efficiency)
8.6	**On-Site Treatment** • Determine quantity of the chemical for activities on wastestream describes in 7A • Report quantity actually destroyed (i.e., consider efficiency) • Metals and metal category compounds cannot be reported here

Remedial, Catastrophic, or One-Time Amounts

- Section 8.8: Quantity of Section 313 chemical released into the environment or transferred off-site as a result of:
  - **Remediation**
  - **Catastrophic events (e.g., earthquake, hurricane, fire, floods)**
  - **One-time events not associated with production processes (e.g., pipe rupture due to unexpected weather)**
- Does not include Section 313 chemicals treated, recovered for energy, or recycled ON-SITE
- Excludes quantities in Sections 8.1 through 8.7

Calculating Quantity Reported in Section 8.8



Total Section 8.8 Quantity = (2) + (3) + (4)

Production Ratio or Activity Index

- Section 8.9: Production ratio or activity index
  - **A ratio of production or activity involving the Section 313 chemical in the reporting year to production or activity in the previous year**
  - **Allows quantities of the Section 313 chemical reported in Sections 8.1 through 8.7 in the current year to be compared to quantities reported in the prior year**
- Example (Production Ratio):
  Oven manufacturing
  40,000 ovens assembled (Current RY) = 1.14
  35,000 ovens assembled (Prior RY)
- Example (Activity Index):
  Tank washouts
  50 Washouts (Current RY) = 0.83
  60 Washouts (Prior RY)

Source Reduction Activities

- Section 8.10: Practices used with respect to the chemical, and the methods used to identify those activities
  - **Includes only those source reduction activities implemented for the first time during the reporting year**
    - *Include activities that reduce or eliminate quantities reported in Sections 8.1 through 8.7*
  - **Possible Source Reduction Activities**
    - *Standard operating procedures*
    - *Process changes or equipment changes (e.g., replacements, adjustments)*
    - *Raw material changes*
    - *Work orders for process changes*
    - *Product redesign specifications*
    - *Audit reports and follow-up actions*
    - *Waste minimization section of the RCRA hazardous waste report*
    - *State/corporate pollution prevention reports*

Optional Information

- Section 8.11
  - **Facility should indicate whether additional optional information on source reduction, recycling, or pollution control activities is included with the report**
  - **A one-page summary is encouraged**
  - **Facility can provide information on previous years' activities**

Alternate Threshold Rule

- The President signed the Omnibus Appropriations Act on March 11, 2009, rescinding the EPA's TRI Burden Reduction Rule of 2006 which expanded eligibility requirements for Form A reporting.
- With passage of the Act, criteria for submitting a Form A revert back to the rules in effect prior to December 22, 2006, when the Burden Reduction Rule was published.
- **These changes affect reports due July 1, 2009.**
- The TRI Program will publish a final rule in the Federal Register implementing the Appropriations Act requirements.
- Refer to the EPA TRI website (www.epa.gov/tri) for further updates.

Form A Eligibility

- If alternate threshold criteria met:
  - **Have the option to file a Form A in lieu of a Form R**
  - **No detailed release, other waste management, or source reduction reporting**
  - **Maintain records and calculations used to determine Form A eligibility**
- Facilities can submit a combination of Forms R and Forms A. Some chemicals may meet Form A criteria, others may not.

Criteria for Submitting Form A

- Must NOT be a PBT chemical
- Do not exceed 1,000,000 pounds of the toxic chemical manufactured, processed, or otherwise used.
- Do not exceed 500 pounds for the total annual waste management (i.e., releases including disposal, recycling, energy recovery, and treatment) of the Section 313 chemical.
  - *Equivalent to the sum of the quantities calculated for Sections 8.1 – 8.7 of the Form R*

Quiz #3 Question 1

1. A facility manufactures 100,000 lbs. of a non-PBT Section 313 chemical. They sell 99,950 lbs. as a product. They emit 25 lbs. to the air out of a stack, and send 25 lbs. off-site for treatment.

   Do they meet the criteria for submitting a Form A?

   Select Yes or No.

   YES NO

Quiz #3 Question 2

2. A facility uses 50,000 lbs. of nitric acid as a cleaner. The entire amount is neutralized in their on-site wastewater treatment operation and there are no air or water releases.

   Do they meet the criteria for submitting a Form A?

   Select Yes or No.

   YES NO

Quiz Answers

Quiz #1 Question 1

1. Would the facility described below be covered by TRI and, therefore, need to consider its chemical use for possible reporting?
Select Yes or No.

A manufacturing facility, owned by ABC Corporation, with 100 full-time employees

YES NO

Answer: Yes.

As a manufacturing facility, its primary NAICS code will be among those covered by EPCRA Section 313 (TRI). In addition, the facility employs more than 10 full-time employees. This facility would need to consider whether it has exceeded any activity thresholds for TRI chemicals or chemical categories, to determine if it needed to report.

Quiz #1 Question 2

2. Would the facility described below be covered by TRI and, therefore, need to consider its chemical use for possible reporting?
Select Yes or No.

A maintenance and warehouse facility, owned by ABC Corporation, with 5 full-time employees, a few blocks away from the manufacturing facility described in Question 1

YES **NO**

Answer: No.

The facility's maintenance and warehouse activities are represented by a primary NAICS code that will not be among those covered by EPCRA 313 (TRI). In addition, the facility has fewer than 10 full-time employees. This facility would not need to report.

Quiz #1 Question 3

3. Would the facility described below be covered by TRI and, therefore, need to consider its chemical use for possible reporting?
Select Yes or No.

A maintenance and warehouse facility, owned by ABC Corporation, with 5 full-time employees, next door to the manufacturing facility described in Question 1

YES **NO**

Answer: Yes.

The maintenance and warehouse activities are considered part of the manufacturing facility because they are on adjacent properties. Since the employee threshold is exceeded, this facility would need to consider any chemical use at the warehouse and maintenance establishment along with that of the manufacturing facility, to determine if the facility needed to report.

Quiz #2 Question 1

1. A plant uses benzene as a raw material to manufacture liquid industrial adhesive for sale. The plant adds 27,000 lbs. of benzene to its liquid adhesive-making operation during the reporting year, but 3,000 lbs. are volatilized during the operation. How much of the benzene should be applied toward the processing activity threshold? Select your choice.

A. 27,000 lbs.
B. 24,000 lbs.
C. 3,000 lbs.

Answer: A is correct.

27,000 total lbs. of benzene is processed. Always apply the total amount that enters a process toward the activity threshold. The quantity of benzene processed exceeds the 25,000 lbs. processing threshold for non-PBT chemicals, therefore, the facility would need to complete a TRI form for benzene. The quantity released to the environment would be reported on the TRI Form R.

Quiz #2 Question 2

2. If a facility processes 20,000 lbs. of 2-Butoxyethanol in one operation and 10,000 lbs. of 2-(2-Butoxyethoxy)ethanol in another operation during the reporting year, what should it apply towards it's processing threshold for glycol ethers?
Select your choice.

A. 10,000 lbs.
B. 20,000 lbs.
C. 30,000 lbs.

Answer: C is correct.

2-Butoxyethanol and 2-(2-Butoxyethoxy)ethanol are both chemicals within the glycol ethers chemical category; therefore, the quantities of each chemical processed during the reporting year should be summed. The facility has exceeded the reporting threshold for processing (25,000 lbs.) and would need to report for the glycol ethers chemical category.

Quiz #2 Question 3

3. A facility processes 18,000 lbs. copper sulfate, 10,000 lbs. of cuprous oxide, and otherwise uses 12,000 lbs. of aqueous sulfuric acid solution in a closed system. For which TRI chemicals or chemical categories would the facility need to submit a TRI form?
Select your choice.

A. copper compounds and sulfuric acid
B. only copper compounds
C. only sulfuric acid

Answer: B is correct.

The facility has exceeded the 25,000 lbs. processing threshold for copper compounds (18,000 + 10,000 = 28,000) and would need to submit a TRI form for copper compounds. The qualifier for sulfuric acid (see Section 313 Chemicals) indicates that it is only reportable in an aerosol form. Because the facility only used the sulfuric acid in an aqueous form (and does not generate acid aerosols), it does not need to consider it towards the otherwise use threshold, and no report for sulfuric acid is required.

Quiz #3 Question 1

1. A facility manufactures 100,000 lbs. of a non-PBT Section 313 chemical. They sell 99,950 lbs. as a product. They emit 25 lbs. to the air out of a stack, and send 25 lbs. off-site for treatment. Do they meet the criteria for submitting a Form A?
Select Yes or No.

YES **NO**

Answer: Yes.

The total amount of the chemical manufactured (100,000 lbs.) is below the 1,000,000 lbs. threshold for using Form A. The total annual reportable amount (50 lbs.) is below the 500 lbs. threshold.*

Quiz #3 Question 2

2. A facility uses 50,000 lbs. of nitric acid as a cleaner. The entire amount is neutralized in their on-site wastewater treatment operation and there are no air or water releases. Do they meet the criteria for submitting a Form A?
Select Yes or No.

YES **NO**

Answer: No.

The total amount of the chemical manufactured, processed, or otherwise used (50,000 lbs.) is below the 1,000,000 lbs. threshold for using Form A. However, the annual reportable amount (50,000 lbs.) is greater than the 500 lbs. threshold, because all 50,000 lbs. of nitric acid are treated onsite. The facility would file a Form R for nitrate compounds.*