**Introduction**

What is EPCRA Section 313 & TRI?

- Section 313 of EPCRA requires facilities to file a TRI report annually 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.
- Facilities exceeding an activity threshold must report if they are:
  - In a "covered sector" (defined by NAICS codes); and
  - Have 10 or more employees.
- 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, 2015 deadline for RY 2014 (January 1 - December 31, 2014) activities]

**Basic Concepts Module**

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

**Advanced Concepts Module**

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

Note: This program includes audio narration. Use speakers or headphones for audio. Click Notes button for captions.
**TRI Process – 2 Part Process**

- **Applicability & Threshold Determinations**
  - Identify Section 313 chemicals manufactured, processed, or otherwise used at the site.
  - Determine quantities of Section 313 chemicals and whether they are manufactured, processed, or otherwise used on-site or off-site for the reporting year.

- **Release/Waste Mgmt. Reporting**
  - Identify toxic releases and off-site transfers.
  - Identify other waste management practices.
  - Complete Final QA/QC.
  - Submit to EPA & State or Tribe.

- **If a Threshold is Exceeded...**
  - Submit to EPA & State or Tribe.

**TRI Reporting Process**

- **Covered Primary Sector**
  - NO

- **Ten Employees? (20,000 hours/year)**
  - YES

- **NAICS Code(s) or Federal facility?**
  - YES

- **MPOU* Section 313 Chemicals?**
  - YES

- **MPOU* Thresholds Exceeded?**
  - NO

- **Reporting Thresholds Met; Form R/Form A Required**
  - YES

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

**Industrial Sectors Covered**

<table>
<thead>
<tr>
<th>Industrial Sector</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>Facilities engaged in the mechanical or chemical transformation of materials or substances into new products</td>
</tr>
<tr>
<td>Metal mining</td>
<td>Not including metal mining services, and uranium, radium, and vanadium ores</td>
</tr>
<tr>
<td>Coal mining</td>
<td>Not including coal mining services</td>
</tr>
<tr>
<td>Electrical utilities</td>
<td>Limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce</td>
</tr>
<tr>
<td>Treatment, Storage, and Disposal facilities</td>
<td>Limited to facilities regulated under the Resource Conservation and Recovery Act, Subtitle C, 42 U.S.C. Section 6921 et seq.</td>
</tr>
<tr>
<td>Solvent recovery services</td>
<td>Limited to facilities primarily engaged in solvent recovery services on a contract or fee basis</td>
</tr>
<tr>
<td>Chemical distributors</td>
<td>Facilities engaged in the wholesale distribution of chemicals and allied products</td>
</tr>
<tr>
<td>Petroleum bulk terminals</td>
<td>Facilities engaged in the wholesale distribution of crude petroleum and petroleum products from bulk liquid storage facilities</td>
</tr>
</tbody>
</table>
Covered NAICS Codes

- 2012 North American Industry Classification System (NAICS) codes are used for TRI reporting.
- To determine whether your facility’s primary NAICS code is covered by TRI regulations, see: www2.epa.gov/tri/my-facilities-six-digit-naics-code-tri-covered-industry
- TRI-Covered* Industries NAICS
  - 212 Mining
  - 221 Utilities
  - 31 - 33 Manufacturing
  - All Other Miscellaneous Manufacturing (includes 1119, 1131, 2111, 4883, 5417, 8114)
  - 424 Merchant Wholesalers, Non-durable Goods
  - 425 Wholesale Electronic Markets and Agents Brokers
  - 511, 512, 519 Publishing
  - 562 Hazardous Waste
  - Federal Facilities

* Note: For many of these NAICS codes, there are reporting exceptions.

Federal Facilities

- Federal facilities (covered by Executive Order 13423 and its implementing instructions)
  - Regardless of their 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, process, or otherwise use thresholds of a listed chemical
  - Government unit responsible for reporting on activities conducted at Federal facilities
  - Does not change existing requirements of private contractors of government owned contractor operated (GOCO) facility to report.

Definition of “Facility”

- TRI reporting requirements are determined by activities at “facilities”
  - 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 (d))

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 CFR § § 372.22(b) and 372.3)
  - Establishment - unique and separate economic unit of a facility (See 40 CFR § 372.3)
Multi-Establishment Facility

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

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

Employee Threshold

- 10 or more full-time employee equivalents (i.e., 20,000 hours) (40 CFR § 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 contractors performing intermittent service functions such as janitorial services (1998 Q&A #21, #29 and #38)
  - 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 Section 313 of EPCRA (TRI) and, therefore, need to consider its toxic chemical use for possible reporting? Select Yes or No.

A manufacturing facility in a TRI-covered NAICS code, owned by ABC Corporation, with 100 full-time employees

YES  NO

Quiz #1 Question 2
2. Would the facility described below be covered by Section 313 of EPCRA (TRI) and, therefore, need to consider its toxic 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 Section 313 of EPCRA (TRI) and, therefore, need to consider its toxic chemical use for possible reporting? Select Yes or No.

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

YES  NO

Section II: Thresholds (PBT and Non-PBT)
Threshold calculations for each activity are based on cumulative quantities of each Section 313 chemical over the reporting year for the whole facility. Each activity threshold is treated separately.

- Quantify amounts of toxic chemicals that are manufactured, processed, or otherwise used at the facility.
- Compare amounts in each activity to the toxic chemical’s applicable threshold.

If an activity threshold is exceeded for a toxic chemical, a TRI Report must be prepared and submitted for that chemical.

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:

- 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.

Within the list of 600+ chemicals and chemical categories, there is a subset designated as being of special concern and commonly referred to as PBT chemicals (40 CFR § 372.28).

PBT chemicals have lower activity thresholds than non-PBT TRI chemicals. Special rules often apply to PBT chemicals. 20 chemicals and chemical compound categories are classified as PBTs and have lower activity thresholds.

*PBT = Persistent, Bioaccumulative, Toxic

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

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

- 10 lbs./yr (manufactured, processed, or otherwise used)
  - Chlorodane
  - Heptachlor
  - Mercury
  - Mercuric compounds
  - Methylmercury
  - Octachlorostyrene
  - Pentachlorobenzene

- 0.1 g/yr (manufactured, processed, or otherwise used)
  - Dioxin and dioxin-like compounds
  - Benz[a]anthracene
  - Benzo[a]pyrene
  - Hexachlorobenzene
  - Mercury compounds
  - Octachlorostyrene
  - Pentachlorobenzene

* Excluding lead in stainless steel, brass, or bronze alloys.
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.) 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 are listed in the front of the TRI Reporting Forms and Instructions, on the TRI website, and in TRI-MEweb.

Chemical List Changes

- 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 should begin gathering data for threshold determination and potential waste management reporting. Reporting for this chemical category is required on Reporting Year 2015 forms that are due to the Agency on July 1, 2016.

- A rule was published on November 7th, 2013 (78 FR 216) adding o-nitrotoluene to the TRI chemical list. Reporting for this chemical will begin in Reporting Year 2014 for forms due to the Agency on July 1, 2015. For more information visit: [http://www2.epa.gov/toxics-release-inventory-tri-program/addition-ortho-nitrotoluene-final-rule](http://www2.epa.gov/toxics-release-inventory-tri-program/addition-ortho-nitrotoluene-final-rule)

- On October 17, 2011, the 1994 administrative stay of the TRI reporting requirements for hydrogen sulfide (H2S) was lifted. H2S reporting requirements first became effective on October 17, 2011 for reporting year 2012.

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 CFR § 372.25(g)). Below are some examples (see Table II of EPA’s TRI Reporting Forms and Instructions document):

<table>
<thead>
<tr>
<th>Chemical</th>
<th>CAS #</th>
<th>Qualifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td>7429-90-5</td>
<td>Fume or dust</td>
</tr>
<tr>
<td>Aluminum Oxide</td>
<td>1344-28-1</td>
<td>Fibrous forms</td>
</tr>
<tr>
<td>Asbestos</td>
<td>1332-21-4</td>
<td>Fibrous forms</td>
</tr>
<tr>
<td>Isopropyl alcohol</td>
<td>67-63-0</td>
<td>Only manufacturers using strong acid process</td>
</tr>
<tr>
<td>Phosphorus (not phosphate)</td>
<td>7723-14-0</td>
<td>Yellow or white</td>
</tr>
<tr>
<td>Saccharin</td>
<td>51-07-2</td>
<td>Manufacturer only</td>
</tr>
<tr>
<td>Hydrochloric acid</td>
<td>7647-01-0</td>
<td>Acid aerosols</td>
</tr>
<tr>
<td>Sulfuric acid</td>
<td>7694-33-9</td>
<td>Acid aerosols</td>
</tr>
<tr>
<td>Vanadium</td>
<td>7440-63-2</td>
<td>Except when contained in alloy</td>
</tr>
</tbody>
</table>

TRI Chemical Categories

- 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

* Does not include Barium Sulfate CAS 7727-43-7
** Except chrome ore and unreacted component of processing residue (see RFI for further information)
*** 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 (examples)

<table>
<thead>
<tr>
<th>Category</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorophenols</td>
<td>OH ClX H(5-X); X = 1 to 5</td>
</tr>
<tr>
<td>Cyanide Compounds</td>
<td>XCN where X=H or any other group where a formal dissociation may occur.</td>
</tr>
<tr>
<td>Disocyanates</td>
<td>20 individual compounds cited in Category</td>
</tr>
<tr>
<td>Dioxin and Dioxin-Like Compounds:</td>
<td>17 individual compounds cited in Category</td>
</tr>
<tr>
<td>Ethylenebisdithiocarbamic acid, salts and esters (EBDCs)</td>
<td>Includes a substance that may contain EBDC or EBDC salt or ester as part of its infrastructure</td>
</tr>
<tr>
<td>Certain Glycol Ethers</td>
<td>Complex definition</td>
</tr>
<tr>
<td>Nitrate compounds</td>
<td>Water dissociable, reportable only when in aqueous solution</td>
</tr>
<tr>
<td>Polybrominated Biphenyls (PBBs)</td>
<td>B/X H(10-X); X = 1 to 10</td>
</tr>
</tbody>
</table>

Manufacturing Activities

- Manufacturing (EPCRA § 313(b)(1)(C)(i) and 40 CFR § 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 by-products**:
      - At any point at the facility, including waste treatment (#152 of 1998 Q&A) and fuel combustion (#252 and #254 of 1998 Q&A)
  - Importing
    - “Cause” to be imported

*Impurity=TRI chemical that still remains with the final facility product as it is distributed into commerce (#151 and #319 of 1998 Q&A)
**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 CFR § 372.3) - preparation of a Section 313 chemical, after its manufacture, 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
  - 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:
    - 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 processing
  - Transfer to a storage tank for mere storage is not processing
Otherwise Use Activities

- Otherwise Use (40 CFR § 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

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

- Disposal, treatment for destruction on-site, or stabilization that does not result in further distribution in commerce are considered otherwise use 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.

- On-site energy recovery is an otherwise use activity.
- Waste management activities, including on-site recycling, treatment for destruction, waste stabilization and release/disposal of Section 313 chemicals in wastes generated on-site are not threshold activities.

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
  - If the materials remain in use from previous years, count only the quantity added during current reporting year
- Calculations for reporting waste management may be different from threshold quantities.

Threshold Determination for Compound Categories

- Count together all compounds within the same chemical category for each activity, even if different compounds within a category are used in separate operations
- Consider the entire weight of all the different chemical compounds in the same chemical 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)
  - Repackaging (and blending, if any) of waste fuels for burning for energy recovery. (However, all fuels, including waste fuels (with blending, if any), are considered otherwise used when combusted for energy recovery.)

Note: While these activities are not included in the threshold determination, releases and wastes from these activities 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 its 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
Section III: 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 and waste management reporting

Recognize that exemptions only apply to certain limited circumstances

Types of exemptions (40 CFR § 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 CFR § 372.38(a)) if the chemical is:
  - An OSHA-defined carcinogen present at a concentration of less than 0.1% (See 29 CFR § 1910.1200(d)(4))
  - Any other non-PBT TRI chemical present at a concentration of less than 1%
- The TRI de minimis level appears next to each chemical on the chemical list in Table II of the TRI Reporting Forms and Instructions (1.0, 0.1 or * for PBT chemicals where de minimis is not allowed (See 40 CFR § 372.38(a)))
De Minimis Exemption

HOW IT WORKS...

• De minimis exemption generally applies to non-PBT chemicals:
  • In mixtures or trade name products received from off-site, including imported
  • Coincidentally manufactured as impurities that remain in products distributed in commerce

• De minimis exemption does not 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)

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

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

PBT Chemicals and the De Minimis Exemption

• The de minimis exemption cannot be applied to PBT chemicals.

• All other EPCRA section 313 exemptions can apply to PBT chemicals.

• For supplier notification requirements, suppliers of mixtures containing PBT chemicals at de minimis concentrations do not need to supply notification
  • Facilities that receive a mixture and know that PBT chemicals are present must consider each PBT chemical in threshold and release calculations regardless of whether or not supplier notification was provided

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

• Processing a non-PBT Section 313 chemical in a mixture to above the de minimis concentration triggers threshold determinations and, if thresholds are met, release calculation requirements
**Article Exemption Applicability**

- To qualify for the article exemption, the article must meet 3 criteria (40 CFR § 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 form having a specific shape or design; or
  - Recycled, directly reused; or
  - 0.5 pound or less released per year (may be rounded down to zero)
- If more than 0.5 pound per year of a Section 313 chemical is released from all like items in a form not having a specific shape or design and is not recycled or directly reused, none of the items meet the articles exemption.
- End use must be dependent upon the item’s initial shape or design (For example, sheet metal must maintain its initial thickness, and wire and pipe must maintain their initial diameter.)
- 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 annually, and not recycled or directly reused, negate the article status.
- Fluorescent light bulbs containing mercury are installed and used. Following use, the bulbs are crushed for recycling at the facility and mercury is released.
  - Crushing bulbs for recycling after use for lighting at the facility is not considered release under normal conditions of processing or use at this facility; the article exemption may apply.

**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.
- Generally, 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 under the direct supervision of a technically qualified individual ARE exempt from threshold and release and waste management reporting (40 CFR § 372.38(d) and 1998 Q&A #511):
  - 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 CFR § 372.38(c)(4)):
  - "Otherwise use" exemption

- Motor vehicles include cars, trucks, tanks, and forklifts

- Motor vehicle maintenance includes:
  - Fueling and adding other fluids (e.g., ethylene glycol)
  - Body repairs
  - Parts washing

**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 CFR § 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

**Structural Component Exemption**

- Section 313 chemicals used as structural components are eligible for exemption. (See 40 CFR § 372.38(c)(1)): Building components that are process-related are not “structural components” as contemplated by the exemption.

- Non-process-related building components that are “structural components” and therefore eligible for the exemption include:
  - Potable water pipes and other non-process-related pipes and structures

- Processed-related building components that are NOT “structural components” and therefore NOT eligible for the exemption include:
  - 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)

**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). Also, chemicals manufactured during routine janitorial or facility ground maintenance are not exempt.
Other Section 313 “Otherwise Use” Exemptions

• Section 313 chemicals contained in non-process related items for employee personal use (40 CFR § 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 CFR § 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 CFR § 372.3)

• Chemicals in metal mining overburden that are processed or otherwise used are specifically exempt from TRI reporting (40 CFR § 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 CFR § 372.3)

Chemical Information Management

• Consider all activities and sources

• Tracking toxic 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:
  - SDS
  - 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)

Determining Concentrations in Mixtures or Other Trade Name Products

- Determine whether thresholds were exceeded for listed chemicals in a mixture (40 CFR § 372.30(b)(3)):
  - Exact concentration - use concentration provided:
    - SDS = 25% Use 25%
  - Upper bound - use upper limit:
    - SDS < 25% Use 25%
  - Range - use the midpoint of the range:
    - SDS: 30 – 50% Use 40%
    - Lower bound - subtract out other known constituents, create a range, and use the midpoint of range:
      - SDS: >75% toxic chemical Use 80% (range = 15% water 75%)

TRI Chemicals Contained in Mixtures

- For the threshold quantity, only include the amount of the TRI chemical in the mixture, not the weight of the entire mixture.

- The de minimis exemption (40 CFR § 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

- 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
Supplier Notification

- Supplier notification - requires suppliers of mixtures or trade name products to covered facilities (See 40 CFR § 372.45(a)) 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 SDS
  - Update notification when changes occur

- The Regulatory Information section of the SDS 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

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 CFR § 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
TRI REPORTING REQUIREMENTS

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

Facility Name: OMNI CHEMICAL

Date Worksheet Prepared: 1/8/2015

Toxic Chemical or Chemical Category: Toluene

Prepared By: J.S.P.

Prepared Reporting Year: 2015

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

<table>
<thead>
<tr>
<th>Mixture Name or Other Identifier Information</th>
<th>Source</th>
<th>Percent</th>
<th>Amount of the Listed Toxic Chemical by Activity (in lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

Note Fraction or Percent Exempt (if Applicable)

Step 3. Calculate the amount subject to threshold:

Compare to thresholds for section 313 reporting.

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
- Keep good records and document all work

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 from the time the report was submitted (40 CFR § 372.10)
- EPA may review records during a data quality audit

TRI Process – 2 Part Process

Applicability & Threshold Determinations
- Identify Section 313 chemicals manufactured, processed, or otherwise used at the site
- Determine quantities of Section 313 chemicals and whether they are manufactured, processed, or otherwise used on-site for the reporting year

Release/Waste Mgmt. Reporting
- Identify total releases and off-site transfers
- Identify other waste management practices
- Identify pollution prevention activities

Use TRI-MEweb to Complete Form R or Form A

Complete Final QA/QC

Submit to EPA & State or Tribe (only EPA if part of State Data Exchange)
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 (assuming other reporting criteria are met.)

Forms must be submitted electronically (via TRI-MEweb). No paper submissions are accepted (except for trade secrets), including revisions and withdrawals.

Form R Content

<table>
<thead>
<tr>
<th>Part I</th>
<th>Section 1: Reporting Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 2: Trade Secret Information</td>
<td></td>
</tr>
<tr>
<td>Section 3: Certification</td>
<td></td>
</tr>
<tr>
<td>Section 4: Facility Identification</td>
<td></td>
</tr>
<tr>
<td>Section 5: Parent Company Info</td>
<td></td>
</tr>
<tr>
<td>Part II</td>
<td>Section 1: Toxic Chemical ID</td>
</tr>
<tr>
<td>Section 2: Mixture Component ID</td>
<td></td>
</tr>
<tr>
<td>Section 3: Activities &amp; Uses</td>
<td></td>
</tr>
<tr>
<td>Section 4: Mix And On site for CY</td>
<td></td>
</tr>
<tr>
<td>Section 5: On-site Releases</td>
<td></td>
</tr>
<tr>
<td>Section 6: Off-site Transfers</td>
<td></td>
</tr>
<tr>
<td>Section 7: On-site Waste Treatment, Energy Recovery, Recycling Processes</td>
<td></td>
</tr>
<tr>
<td>Section 8: Source Reduction and Waste-Management Activities</td>
<td></td>
</tr>
</tbody>
</table>

Facility Identification

Select your Facility (TRI-MEweb)
- TRI-MEweb preloads facility information
  - To view or make changes, select “Edit” after selecting facility
  - Select “entire facility” or “part of a facility”

Facility Name and Address (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)
- Even if establishments of one facility are reporting separately, all should use the same TRI facility identification number
- 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 (www.epa.gov/enviro/facilitynames.html)
Facility Identification (continued)

- Select Facility Type (Sections 4.2)
  - Select Federal facility or “GOCO” or neither
- Enter Parent Company Name and Dun and Bradstreet Number (Section 5)
  - Parent company standardized names:
    - TRI-MEweb is pre-loaded with standardized Parent Company names. (Can change pre-loaded Parent Company names, if necessary)
    - For new TRI reporters, the TRI-MEweb software has a list of standardized Parent Company names. If reporters cannot find correct name from the provided list, enter a new name.
  - To verify the accuracy of facility and parent company D & B number and name, go to: https://www.dnb.com/product/dlw/form_cc4.htm or call 1-888-814-1435.
- Facility Dun and Bradstreet Numbers (Section 4.6)
  - To verify the accuracy of facility and parent company D & B number and name, go to: https://www.dnb.com/product/dlw/form_cc4.htm or call 1-888-814-1435.
- Primary and Secondary NAICS codes (Section 4.5)
  - Enter primary 6-digit NAICS code
  - Enter other covered NAICS codes in decreasing order of significance
    - www.naics.com/search.htm

Activities and Uses

- Specify use(s) of the Section 313 chemical (Section 3)
  - Report only activities taking place at reporting facility
    - Check all applicable boxes
  - List name, phone number, and email
    - Contact information (Part I, Section 4.3 and 4.4)
  - Report only activities taking place at reporting facility
    - Technical contact – should be able to explain data to EPA
    - Public contact – should be able to represent the facility’s data to the public.
Tools and Data Sources for Release Calculations

- Previous year Form R report(s) and documentation
- 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
- The facility needs to determine the best approach

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

Data Precision

- EPA allows using two significant figures when reporting releases and other waste management estimates
  - The number of significant figures is typically the number of non-zero digits
  - If estimate is more precise, additional significant figures may be used based on precision of data used to calculate estimate
    - Regardless of estimation precision, however, non-PBT chemical quantities should be entered in whole numbers in TRI-Meweb
    - Note that certain waste management quantities calculated automatically by TRI-Meweb may include up to two decimals
- 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
  - Note: If you enter a range code, TRI data tools used by the public will display the midpoint of the range (e.g., 5, 250, or 750 lbs).

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-MeWeb 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 that 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) or has not transferred any waste to an off-site location)
  - OR
  - 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

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

- 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
  - Maximum amount on site may differ from the Tier II-reported maximum amount on site value
    - Tier II is usually by mixtures, Form R is chemical-specific
    - Tier II excludes hazardous wastes, Form R does not

Quantity Entering Each Medium

- Report total releases of the Section 313 chemical to each environmental medium on-site - air, water, land (Section 5).

- Enter Total Release, report total quantity
  - Range codes can be used in Sections 5 and 6 for non-PBT Section 313 chemical quantities less than 1,000 pounds*
    - A = 1 - 10 pounds
    - B = 11 - 499 pounds
    - C = 500 - 999 pounds
  - * Note that similar quantities reported in Section 8 of Form R must be actual values and not ranges. The Section 8 Calculator in TRI-MEweb will assume the midpoint of any ranges reported in Sections 5 and 6 when calculating quantities for Section 8. If you do not wish to use the midpoint of the range in Section 8 calculations, it is best to enter a value rather than a range in Section 5.

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

- Enter total fugitive releases of the Section 313 chemical, including leaks, evaporative losses, building ventilation, or other non-point air emissions (Section 5.1)

- 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

Stack or Point-Source Air Emissions

- Enter total releases to air from point sources, including stacks, vents, pipes, ducts, storage tanks, or other confined air streams (Section 5.2)

- 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

- Releases to streams or water bodies (Section 5.3)
  - Enter the stream or water body to which your facility directly discharges the chemical, using the map provided in TRI-Méweb
  - Check "NA" Box if the facility does not discharge to receiving streams or water bodies.
  - 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

- Release to stream or water body (Section 5.3) and Discharges to POTW (Section 6.1) are not the same
  - 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

Calculating Wastewater Discharges

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

<table>
<thead>
<tr>
<th>Date</th>
<th>Conc. (mg/l)</th>
<th>Flow (MGD)</th>
<th>Amt. (lbs/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/1</td>
<td>1.0</td>
<td>1.0</td>
<td>8.33</td>
</tr>
<tr>
<td>9/8</td>
<td>0.2</td>
<td>0.2</td>
<td>0.33</td>
</tr>
</tbody>
</table>

Correct way

Average = 4.33

Incorrect 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

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

Other Disposal to Land On-Site

- Enter quantity of toxic chemical entering each on-site land disposal option (Section 5.5)
  - On-site landfills: RCRA Subtitle C (Section 5.5.1A)
  - On-site landfills: other (Section 5.5.1B)
  - On-site land treatment and application farming (Section 5.5.2)
  - On-site surface impoundments: RCRA Subtitle C (Section 5.5.3A)
  - On-site surface impoundments: Other (Section 5.5.3B)
  - Other disposal (includes spills or leaks to land) (Section 5.5.4)

- 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 in the land disposal quantity

Note: Basis of estimate code must be entered.
On-Site Waste Management

- Examples of on-site waste management
  - Air pollution control devices
  - Wastewater treatment processes
  - Energy recovery devices
  - Recycling devices

Waste Treatment Methods and Efficiency

- Report each waste treatment method that each waste stream containing the Section 313 chemical undergoes (Section 7A)
  - Include even if method has no effect on the chemical
- Report the efficiency of the waste treatment methods at eliminating the Section 313 chemical from the waste stream
  - Includes destruction or physical removal

Waste Treatment Methods and Efficiency Table:

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Treatment Method</th>
<th>Waste Stream</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Destruction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Destruction</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Enter quantity treated on-site (destruction only) in Section 8.6

Energy Recovery Methods and Quantity

- Enter on-site energy recovery quantity and 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 Methods and Quantity

- Enter quantity and methods used for on-site recycling of the Section 313 chemical (Sections 7C and 8.4 current year)
  - 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
**Off-Site Transfers**

- Includes both off-site location information and quantities of Section 313 chemicals transferred to off-site locations.
- Report quantities of chemical sent off-site to each POTW or other location for recycling, energy recovery, waste treatment, or disposal.
- Report only total quantity of chemical transferred off-site, not the quantity of entire waste stream mixture.
- In Sections 6.1 and 6.2, Total Transfers, report total quantity.
  - Range codes can be used in Sections 5 and 6 for non-PBT Section 313 chemical quantities less than 1,000 pounds:
    - A = 1 - 10 pounds
    - B = 11 - 499 pounds
    - C = 500 - 999 pounds

*Note that similar quantities reported in Section 8 of Form R must be actual values and not ranges. The Section 8 Calculator in TRI-MEweb will assume the midpoint of any ranges reported in Sections 5 and 6 when calculating quantities for Section 8. If you do not wish to use the midpoint of the range in Section 8 calculations, it is best to enter a value rather than a range in Section 6.*

**Transfers to POTWs**

- Discharges to publicly owned treatment works.
  - Enter total quantity of the Section 313 chemical transferred to all POTWs and basis of estimate.
  - Select POTW name and location for each POTW.
  - May be able to find official name of POTW:
    - Using TRI-MEweb search tool

*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.
- \[300 \times 0.95 = 285\] 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.

- You may enter the percentage of the chemical that is released by the POTW and it will be applied in the automatic Section 8 calculations (otherwise default percentages will be used).

**Other Off-site Transfers**

- Enter transfers to other off-site locations (Section 6.2).
  - 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).
  - Check "NA" box to indicate no transfers to off-site locations.

**Data/tools**

- Waste manifests and vendor receipts
- RCRA reports
- Waste characterization - analyses, profiles

**Off-Site Waste Transfers**

- Identify all sources of off-site transfers of TRI chemicals.
- 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!

- Identify sources for waste composition data.
- Identify final disposition of each Section 313 chemical:
  - Disposal, waste treatment, energy recovery, recycling by selecting the appropriate code.
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 volatile organic compounds (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

Waste Management Hierarchy

- Section 8 of Form R: Source Reduction and Waste Management

  Source Reduction
  Recycling
  Energy Recovery
  Treatment
  Disposal or Other
  Disposition

Production-Related Waste Managed (Section 8.1-8.7)

- 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.

- TRI-MEweb includes a Section 8 Calculator feature that helps calculate Section 8 estimates from estimates reported in previous portions of on-line application. A validation feature ensures consistency between Sections 5 and 6 and Section 8.

Section 8: Relationship to Sections 5 and 6

Part II. Sections 8.1 - 8.7

8.1a Total on-site disposal to Class I UIC wells, RCRA & other landfills
8.1b Total other on-site disposal or other releases:
8.1c Total disposal to Class I UIC wells, RCRA & other landfills
8.1d Total other disposal or other releases:
8.3 Off-site energy recovery
8.5 Off-site recycling
8.7 Off-site treatment

Off-site treatment:
8.1 (excludes metals and metal category compounds), 8.2 (quantities associated with M codes M10, M41, M42, M46, M47, M73, M79, M82, M90, M94, M99) – 8.8 (off-site treatment due to catastrophic event)

Note: Quantity reported in 8.1 is distributed among 8.1c, 8.1d and 8.7 based on final disposition. TRI-MEweb provides default percentages for making this distribution. Metals and metal category compounds should not be reported in 8.7.
## 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 waste stream described in 7A
- Report quantity actually destroyed (i.e., consider efficiency)
- Metals and metal category compounds cannot be reported here

### Non-Production-Related Waste Managed

- Enter the quantity of Section 313 chemical released into the environment or transferred off-site (Section 8.8) as a result of:
  - Remediation
  - Catastrophic events (e.g., earthquake, hurricane, fire, floods)
  - Other 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
- Quantities in Sections 8.1 through 8.7 should not include amounts reported in Section 8.8

### Production Ratio or Activity Ratio

- Production ratio or activity ratio (Section 8.9)
  - A ratio of production or activity involving the Section 313 chemical in the reporting year to production or activity in the previous year
  - Puts year-to-year changes in chemical quantities released and managed as waste into the context of production

- Tips:
  - Consider using a production ratio when production is directly related to the amount of chemical used or produced
  - Consider using an activity ratio when the chemical is "otherwise used" and the amount is determined by a variable other than production
  - The Production Ratio/Activity Ratio is a ratio, not a percent change
  - You can provide information on the variable you used in your ratio in the "Optional Miscellaneous Info" section using the button in TRI-MEweb

- A Production Ratio Wizard is now available in TRI-MEweb to help you calculate your Production Ratio or Activity Ratio

### Production Ratio or Activity Ratio Examples

- Example (Production Ratio): Oven manufacturing
  - 40,000 ovens assembled (Current RY) = 1.14
  - 35,000 ovens assembled (Prior RY)

- Example (Activity Ratio): Tank washouts
  - 50 Washouts (Current RY) = 0.83
  - 60 Washouts (Prior RY)

- Additional Production / Activity Variable Examples, by Industry
  - Refractory Manufacturing: Tons of brick manufactured
  - Chemical Wholesalers: Gallons of glycol ethers packaged
  - Electric Power Generation: Megawatt-hours of electricity produced
  - National Security: Man-days of training per year
  - Synthetic Dye Manufacturing: Number of color changeovers
  - Waste Treatment and Disposal: Tons of waste landfilled on-site
• Report Source Reduction activities implemented for the chemical, and the methods used to identify those activities (Section 8.10)
  - Include only those source reduction activities implemented for the first time during the reporting year
  - Include activities that reduce the total quantity of chemical waste released (including disposal), recycled, combusted for energy recovery, or treated
• Examples of Source Reduction Activities
  - Process or equipment changes (e.g., replacements, adjustments)
  - Product redesign
  - Changed production schedule to minimize equipment changeovers
  - Green chemistry practices (e.g., Optimized reaction conditions or otherwise increased efficiency of synthesis)
• You may also report the estimated annual reduction associated with each activity using range codes provided
  - Based on expected amount of chemical waste generation once the activity has been implemented as a percentage of the amount that would have been generated otherwise

Optional Pollution Prevention Information
• Report additional information in the open-ended Pollution Prevention Information text field (Section 8.11)
  - This optional section provides an opportunity to publicly highlight any steps your facility took to reduce the amount of toxic chemicals entering the environment
  - Information about recycling, energy recovery, and treatment is welcome in addition to details about source reduction activities
  - Facility can provide information on previous years' activities
• Optional Miscellaneous Information (Section 9.1)
  - Facility can provide any useful additional information related to any portion of the Form R submission in this new data field
  - Examples of information to include:
    - Changes in production
    - Facility closures
    - Staffing changes
    - Calculation methods, e.g., emission factors
    - Explanation of data quality alerts
• TRI-MEweb provides a pick-list of suggested topics for this Section
  - When providing optional miscellaneous information, it is helpful to check the box next to the topic to which your information pertains

Section VI:
Alternate Threshold Rule
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.
- If a facility submits a Form A and does not meet the qualifying criteria, it may result in an enforcement action.

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

TRI-MEweb and Submitting Via CDX

- Electronic filing via TRI-MEweb is required
  - No paper submissions are accepted (except for trade secrets)
  - TRI-MEweb supports new reporting, revisions & withdrawals for RY 1991 – current year
  - TRI-MEweb pre-populates reporting forms with data submitted for the prior reporting year and assists users in finding reporting errors
  - EPA provides instant email confirmation of transmitted and certified submissions
  - TRI-MEweb resources including tutorials are available to help users
  - Use hard-copy form only for trade secret reporting

Accessing TRI-MEweb

- TRI-MEweb is accessed through EPA’s Central Data Exchange (CDX)
  - 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: Enter TRIFID and Technical Contact Name
  - Option 2: Enter six-digit facility access code
  - Option 3: New facility, never reported to TRI
- Certifying officials must submit an electronic signature agreement (ESA)
  - Must be completed only once, not annually
  - Option 1: Real-time ESA approval – verify user’s identity electronically
  - Option 2: Mail in signature form – minimum of 5 business days to process
- New certifying officials must submit an (ESA) and a TRIFID certification agreement form before pending submissions can be certified
For More Information and Assistance

- For more information on TRI requirements, see the second part of this training course on TRI Advanced Concepts.
- For TRI reporting guidance, information and tutorials on the TRI-MEweb reporting software, and the latest changes to the TRI Program please visit [www.epa.gov/tri](http://www.epa.gov/tri).
- Industry-specific and chemical-specific guidance can be found at: [www.epa.gov/tri/guide_docs/index.htm](http://www.epa.gov/tri/guide_docs/index.htm)
- For help accessing CDX accounts, password resets, accessing a facility, or completing an ESA, contact the CDX helpdesk: [https://cdx.epa.gov/Contact](https://cdx.epa.gov/Contact)