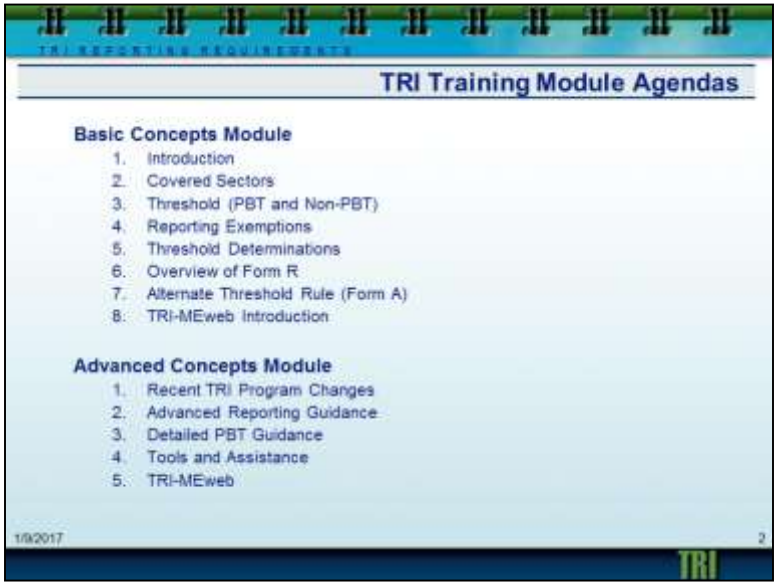
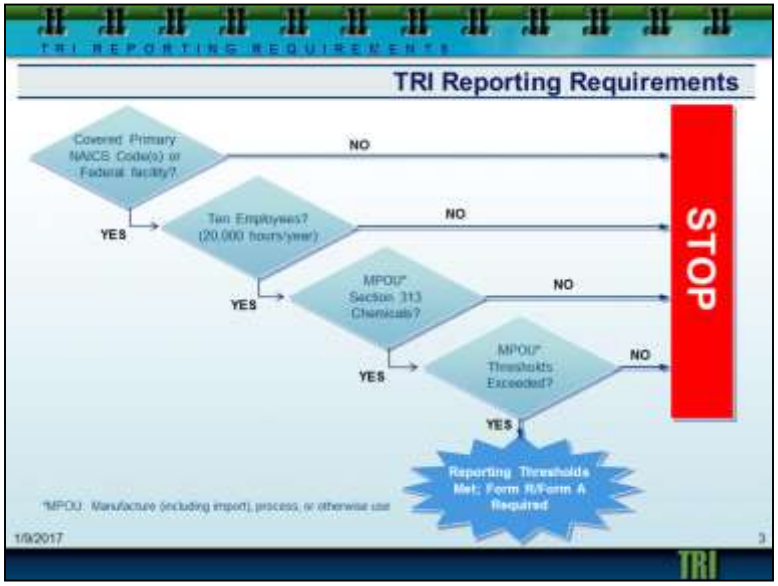
Welcome to the Emergency Planning and Community Right-to-Know Act, Section 313, Toxics Release Inventory online training for the 2016 reporting year. This is the Advanced Concepts Module of a two part training course that is made up of this module and a Basic Concepts module. The Advanced Concepts module assumes a basic understanding of the Toxics Release Inventory, or TRI, requirements and focuses on recent changes to the requirements as well as key concepts that will help to ensure accurate TRI reporting. The Basic Concepts module covers the process of determining whether or not your facility is required to report to TRI and, if so, how you actually prepare and submit information to TRI.



In this Advanced Concepts course we will cover: updates on recent changes to the TRI program; advanced guidance on threshold determinations and reporting; guidance on how to report for chemicals with special requirements, such as persistent bioaccumulative toxic chemicals; where you can go to get additional information and assistance with TRI requirements, including information on the EPA audit policy; and information on the TRI-Made Easy, or “try me”, reporting software and how to submit TRI Forms through the EPA’s Central Data Exchange.



Let's briefly review the process for determining whether or not a facility needs to report to TRI and how to report to TRI, which was covered in detail in the Basic Concepts Module.

A stepwise process can be used to determine if and what you would need to report to TRI. The first step is determining whether or not your facility is covered based on whether it is a Federal Facility or is in a covered industry sector based on its primary NAICS code. If it is not a federal facility or in a covered industry, then reporting is not required. The next step is to determine if the facility is large enough based on the number of employees working for your facility. If it does not have more than 10 full-time employee equivalents, then reporting is not required.

If your facility meets these criteria, the next step is to determine for which TRI chemicals you must submit a TRI report. Covered facilities need to look at the TRI chemicals that are on the TRI chemical list and that may be present at the facility. Facilities also need to look at how the chemicals are used. Are they manufactured? Processed? Or otherwise used? If not, reporting is not required.

If so, the next step is for facilities to calculate the quantity of the TRI chemical that is manufactured, processed, or otherwise used, and compare those quantities to the TRI activity thresholds. Only when activity thresholds are exceeded would the facility be required to complete and submit a TRI report, either a Form R or a Form A.

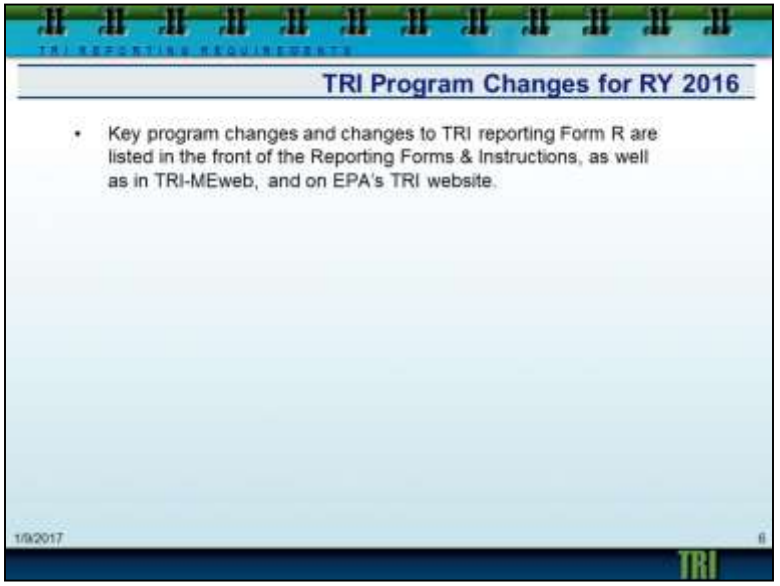
What information do facilities report to TRI? For the Form R, which is the more common means of TRI reporting, facilities report on how the TRI chemical is managed as waste, including onsite releases, treatment, energy recovery, recycling of the TRI chemical and offsite transfers, and pollution prevention activities that are conducted at the facility for that chemical.

Because TRI reporting is done on an annual basis, facilities should reexamine their thresholds and reporting every year to make sure they are reporting accurately for all of the chemicals for which they have exceeded thresholds.

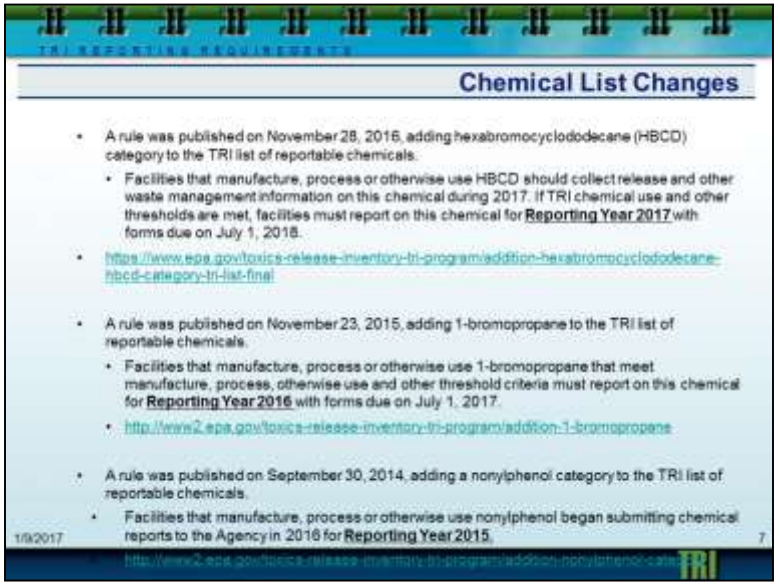
The process of completing your TRI forms is a two-step process. In the first step, you determine if your facility is required to report to TRI, and if so, you determine which TRI chemicals you handle in your facility, and then which of these you would need to report on.

Step 2, shown on the right, is the release and waste management reporting. This is the information that you would put on a TRI form. What information do facilities report to TRI? For the Form R, which is the more common means of TRI reporting, facilities report on how the TRI chemical is managed as waste, including onsite releases, treatment, energy recovery, recycling of the TRI chemical and offsite transfers, and pollution prevention activities that are conducted at the facility for that chemical.


Section I:
Recent TRI Program Changes
TRI



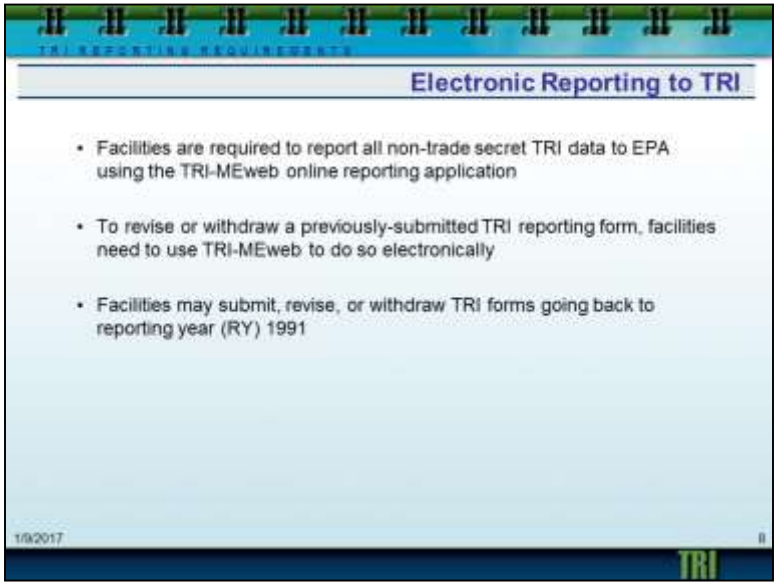
First, let's look at the program changes for this reporting year. TRI reporting requirements often change from year to year. It is very important to be aware of the program changes each year before preparing your TRI reports. Program changes can be found on the TRI Website at www.epa.gov/tri; and in the front of the Reporting Forms and Instructions document, which is available for download from the TRI Website. Program changes are also presented in the TRI Made Easy, or "try me," online reporting tool.



A rule was published in November, 2016, adding hexabromocyclododecane (HBCD) to the TRI list of reportable chemicals beginning in Reporting Year 2017 which means for the forms due on July 1, 2018. Facilities that manufacture, process or otherwise use HBCD should begin gathering data for threshold determination and potential waste management reporting.

A rule was published in November, 2015, adding 1-bromopropane to the TRI list of reportable chemicals beginning in Reporting Year 2016 which means for the forms due on July 1, 2017.

A 2014 rulemaking added a nonylphenol category to the TRI chemical list. Reporting for this chemical began in Reporting Year 2015 for forms due to the Agency on July 1, 2016.



Facilities are required to submit TRI reports electronically via TRI-ME web for all non-trade secret TRI reporting, which accounts for nearly all forms submitted to TRI. TRI-ME web supports TRI reporting for Reporting Years going back to 1991 and must be used for all new reporting, withdrawals or revisions.


Section II:
Advanced Reporting Guidance
TRI

Let's briefly review the threshold quantities that would trigger TRI reporting. For chemicals that are not considered to be persistent, bioaccumulative toxic, or "non-PBT chemicals", the thresholds for manufacturing are 25,000 pounds. For processing, 25,000 pounds, and for otherwise use, 10,000 pounds. These are the thresholds for the majority of the TRI chemicals.

The actual threshold quantities that trigger reporting vary depending on the chemical. For nine of the chemicals, the threshold is 100 pounds per year. For those chemicals that are considered to be highly persistent and bioaccumulative, the threshold is 10 pounds per year. And for dioxin and dioxin-like compounds, the threshold is 0.1 grams per year, which reflects the highly toxic nature of this chemical category. For PBT chemicals, the threshold quantities are the same for manufacturing, processing, and otherwise use.

Now we will go over some reminders regarding threshold calculations. Facilities should be aware that there are some activities that are not considered to be threshold activities under TRI. In other words, the activities are not considered manufacturing, processing, or otherwise use. None of the TRI chemicals undergoing these activities would need to be considered towards an activity threshold. These activities are shown here and include: remediating chemicals; treating chemicals in waste generated on-site; storing chemicals; recycling on-site for use on-site; and transfers sent off-site for further waste management, not including recycling.

For example, let's say a facility stores 50,000 pounds of a chemical onsite. The act of just storing that chemical is not a threshold activity. It's not manufacturing. It's not processing. It's not otherwise use. However the fact that they are storing the chemical on-site probably means that they are also using it in their process. At some point they will pull quantities out of storage and process or otherwise use it in their production process. At that point, they are processing the quantity of the chemical removed from storage, and that quantity gets counted towards their processing threshold. However, if the facility were to stop making a certain product line and continued to store the chemical for the reporting year and never used it, they would not need to consider it towards any threshold.

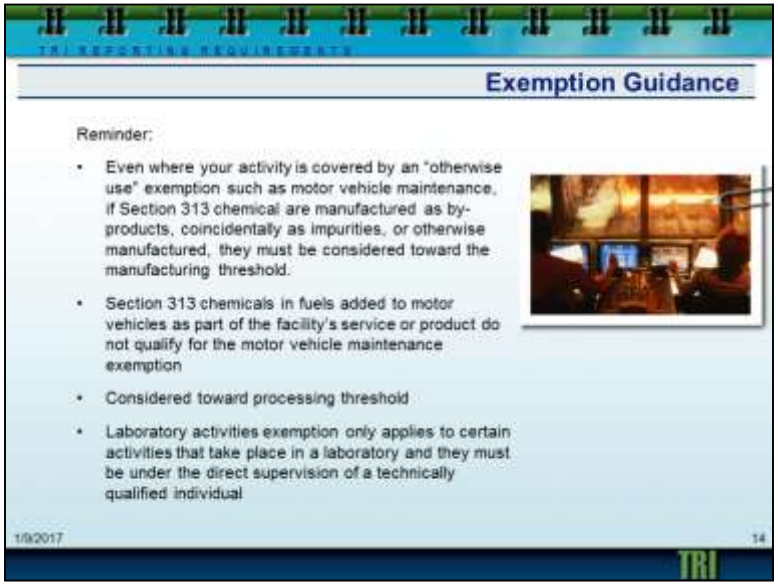
Facilities should be aware that while these activities are not threshold activities, that is not the same as being exempt from TRI. The activities listed here are not exempt from reporting; but they are not counted toward the threshold determination. However, if a TRI activity threshold is exceeded in some other manner at the facility, then the reporting requirement has been triggered and any release or waste management associated with the non-threshold activities must be included in the reported quantities for release and waste management for the chemical.

Also, note that TRI chemicals that are coincidentally manufactured, or unintentionally manufactured, during waste treatment or remediation must be considered in manufacturing threshold amounts.

Some industrial activities may involve more than one TRI threshold activity. For example, combustion can trigger thresholds for both manufacture and otherwise use. Here is some guidance on combustion. Many facilities have on-site combustion processes where TRI chemicals may be present in fuels used, and may be coincidentally manufactured during the combustion of oil, coal, natural gas, waste or other materials. Any TRI chemical in the fuel is considered otherwise used and the quantity would be applied towards the otherwise use threshold. Any TRI chemical generated when the fuel is combusted is considered coincidentally manufactured and the quantity would be applied to the manufacturing threshold. Common TRI chemicals coincidentally manufactured during combustion include acid aerosols, such as sulfuric acid aerosols. Metal compounds are also coincidentally manufactured as byproducts of fuel combustion.

So, when combusting fuels and other materials, be sure to consider both aspects of the combustion process: How much of each TRI chemical is otherwise used, and how much is manufactured?

Note that the non-PBT TRI chemicals in the fuel otherwise used is eligible for the de minimis exemption, and many of the TRI chemicals found in fuels DO exist below de minimis concentrations. However, TRI chemicals that are coincidentally manufactured during combustion will not fall under the de minimis exemption.



The Basics Concepts module of the online training goes into more detail on each of the TRI exemptions, but here we have a few reminders.

Any TRI chemicals contained in fuels combusted are otherwise used and count toward the otherwise use threshold. And those TRI chemicals coincidentally manufactured during combustion must be considered towards the manufacturing threshold. This is true even if the activity is covered by an “otherwise use" exemption such as motor vehicle maintenance. If TRI chemicals are manufactured as by-products, coincidentally as impurities, or otherwise manufactured, they must be considered toward the manufacturing threshold.

The TRI chemicals in fuels added to motor vehicles not just meant to be operated by the facility, do not qualify for the motor vehicle maintenance exemption. They would be considered towards the processing threshold and this exemption only applies to the otherwise use of TRI chemicals. For example, some facilities that manufacture vehicles add a few gallons of fuel before the vehicles leave the facility for distribution into commerce. Because those vehicles and the fuel in them are part of the facilities product going into commerce, the chemicals in the fuel are considered processed.

Similarly, the laboratory activities exemption applies to TRI chemicals that are manufactured, processed, or otherwise used in certain activities that take place in a laboratory. Facilities should take care not to apply this exemption more broadly than it should be. If an activity involving a TRI chemical takes place in a laboratory, it does NOT mean that it is necessarily exempt. Only certain activities are exempt. More information on all of the TRI reporting exemptions can be found in the “Reporting Forms and Instructions” document.

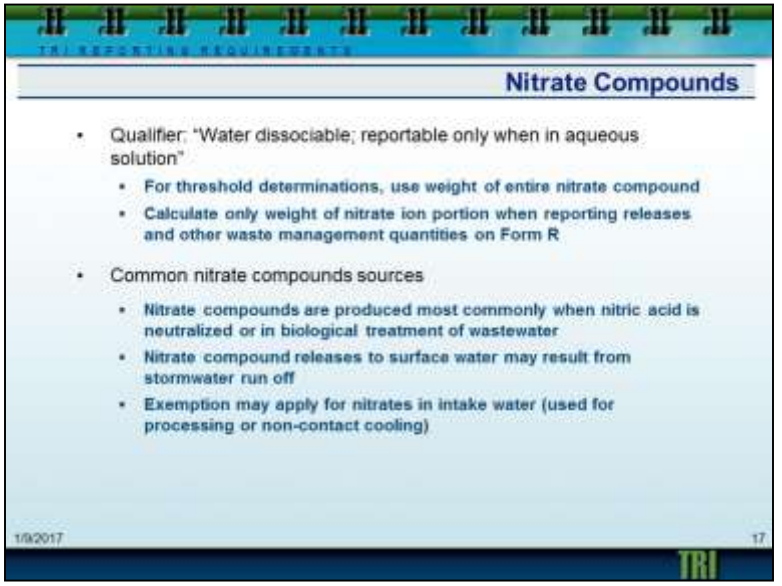
Now we will move on to some other chemicals that have unique reporting requirements for which reporting errors more frequently occur. First, let's look at the unique requirements associated with reporting for metals and metal compound categories. Note that metals and metal category compounds are separately listed under TRI. They each have a separate activity threshold determination – report on the metal only if the threshold for the metal is exceeded, and report for the metal compound only if the threshold for the metal compound is exceeded.

So if a facility handles elemental nickel and nickel compounds at their facility, they should look at the two separately when determining if they need to report. They look at the elemental nickel and see if they manufacture, process, or otherwise use quantities exceeding the threshold for nickel. Separately, they look at their nickel compounds and see if the quantity manufactured, processed, or otherwise used exceeds the threshold for nickel compounds. They look at the two as unrelated chemicals.

However, if the thresholds are exceeded for both the elemental metal and for the metal compound – for example, both for nickel and for nickel compounds, then the facility my submit two separate reports or one combined report for the compound category. So, if the facility exceeded the threshold for nickel and they exceeded the threshold for nickel compounds, they could file a combined report for both elemental nickel and nickel compounds.

“Metal cyanide compounds” is a chemical category on the TRI list. Facilities that manufacture, process, or otherwise use a metal cyanide compound, need to consider if they exceed the threshold under the metal cyanide compound category and also under the corresponding metal compound category.

For example, if a facility processes cadmium cyanide, they need to consider if reporting is required under both cadmium compounds and cyanide compounds. In this example, they would use the entire weight of the cadmium cyanide for the cadmium compound category threshold determination and only the weight of the metal portion of the cadmium for the release and waste management reporting. For the cyanide compounds category, they would also use the entire weight for the cadmium cyanide in the threshold determination, just like for the metal compound. For the release and other weight management reporting, they also use the entire weight of the cadmium cyanide.



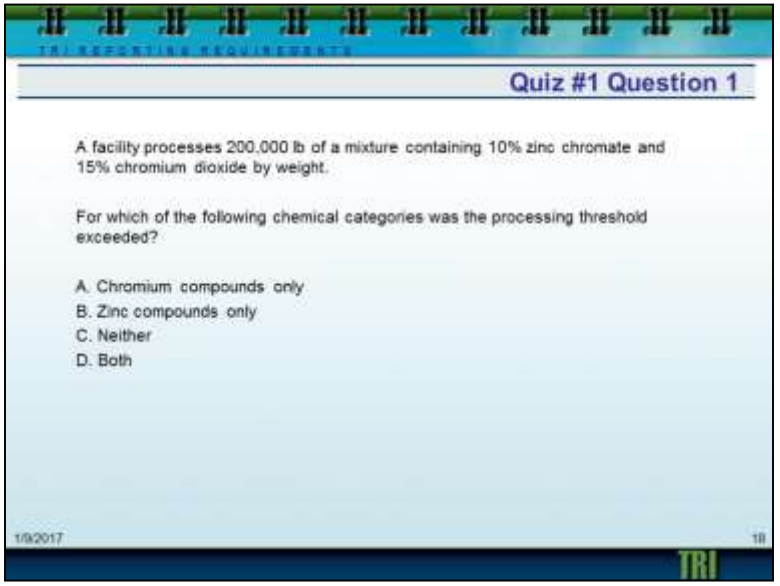
The nitrate compounds category also deserves special consideration.

The TRI chemical category is actually 'water dissociable nitrate compounds'. So, nitrate compounds are only reportable when they are in an aqueous solution.

Nitrate compounds are treated much like metal compounds under TRI. When calculating whether a reporting threshold was exceeded, facilities use the weight of the entire nitrate compound to see if they have manufactured or processed more than 25,000 pounds, or otherwise used more than 10,000 pounds.

If one of these thresholds is exceeded, a TRI form is required. When estimating the quantities released or managed as waste, use only the weight of the nitrate ion portion of the compound. A common error is using the whole weight of the nitrate compound in the release and waste management estimates, and thereby, over-reporting the quantities released or the quantities managed as waste.

Nitrate compounds are most commonly produced when nitric acid is neutralized, or in biological treatment of wastewater. Note that there is an exemption for the otherwise use of TRI chemicals contained in intake water that is used for processing or non-contact cooling.


TRI REPORTING REQUIREMENTS
Quiz #1 Question 1
A facility processes 200,000 lb of a mixture containing 10% zinc chromate and 15% chromium dioxide by weight.
For which of the following chemical categories was the processing threshold exceeded?
A. Chromium compounds only
B. Zinc compounds only
C. Neither
D. Both
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Quiz #1 Question 2

A facility neutralizes 20,000 lb of nitric acid (HNO_3) with sodium hydroxide (NaOH) in an on-site wastewater treatment system. The neutralization is 100% complete and generates sodium nitrate ($NaNO_3$), which is discharged to a nearby water body.

The molecular weight (MW) of HNO_3 = 63 and the MW of $NaNO_3$ = 85. One mole of HNO_3 generates one mole of $NaNO_3$.

Does the facility exceed the manufacturing threshold for nitrate compounds?

Select Yes or No.

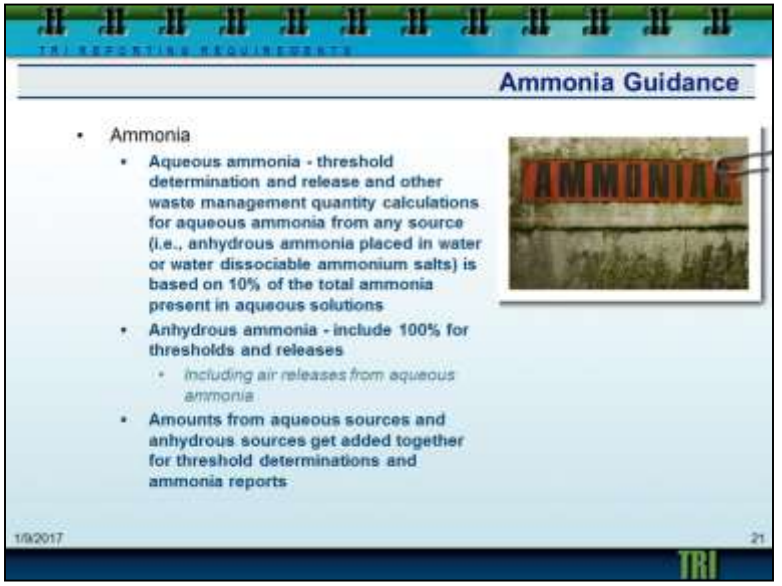
Quiz #1 Question 3

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

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

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

Select Yes or No.



Ammonia also has some unique requirements. For aqueous ammonia, your threshold determination and your release and waste management quantity calculations are based on 10% of the ammonia present in the aqueous solutions. Remember that the 10% applies only to aqueous solutions. If you have anhydrous ammonia you need to consider 100% for thresholds and releases.

Let's look at an example. If in a calendar year, a facility places 20,000 lbs. of anhydrous ammonia in water for processing and processes 25,000 lbs. of aqueous ammonia from an ammonium salt. The facility must include all of the 20,000 lbs. of anhydrous ammonia in the determination of the processing threshold, but only 10 percent (or 2,500 lbs.) of the aqueous ammonia from the ammonium salt, in the processing threshold determination. Therefore, total ammonia processed is 22,500 pounds which is below the reporting threshold.

Acid aerosols are also chemicals with unique requirements. Note that both hydrochloric and sulfuric acids have a chemical qualifier that specifies that they are reportable only if they are in the aerosol form. These aerosols are common products of coal and other fuel combustion. For example, sulfuric acid can be coincidentally manufactured when combusting fuels containing sulfur.

Hydrochloric and sulfuric acids are also used by facilities in closed-loop acid reuse systems. In some cases the acid can be aerosolized to apply it to a material or product for the purpose of etching or cleaning. The acid aerosol is typically condensed back to liquid only to be re-aerosolized again and again. Because of the chemical qualifier, facilities would be manufacturing the TRI chemical every time it is aerosolized and otherwise using it again and again in the process.

EPA developed a simplified method for determining whether a threshold has been exceeded. The guidance directs facilities to calculate their threshold quantity by adding the total amount of acid in the reuse system plus the total virgin acid added in the reporting year to get the threshold quantity manufactured and otherwise used.

EPA has developed two separate reporting guidance documents for sulfuric acid and hydrochloric acid where facilities can get more information pertaining to these chemicals.

Now we will discuss EPA's Guidance on how to report chemicals that migrate from their initial disposal or release location. Shown is an example of a reportable chemical that is disposed of in an on-site surface impoundment.

If in Year One, a facility placed 2,000 pounds of the chemical into a surface impoundment, and in the same year, 1,000 pounds volatilized to the air, the facility would put the 1,000 pounds to air on their Form R as an air release. And 1,000 pounds would be reported on the Form R as disposed of in the surface impoundment, not 2000 pounds.
When the initial disposal and subsequent migration occur during the same reporting year, facilities should put each amount in the appropriate section of the form to show the medium that it actually ended up in.

However, if chemical migration occurs in a subsequent year from the initial disposal, the chemical migration should not be reported. Facilities are only required to report amounts released or otherwise managed in the year that the amounts were released or otherwise managed.

For example, in Year One, 2000 pounds of this chemical were disposed of in the on-site surface impoundment. That 2000 pounds will go on your Form R as an onsite land disposal, under the surface impoundment section. A year later, leachate has migrated from this surface impoundment, and you know that 500 pounds of the original 2000 pounds has migrated out of the impoundment. Because the migration occurred in a different reporting year, the 500 pounds does not get reported on the Year Two Form at all. It was already reported the previous year in the 2000 pounds disposed to land onsite.

Compliance Incentives are a set of policies and programs that eliminate, reduce or waive penalties under certain conditions for business, industry, and government facilities which voluntarily discover, promptly disclose, correct noncompliance, and prevent future environmental violations. Information about these incentives, self-disclosure programs, related tools such as environmental audit protocols, Environmental Management Systems, Pollution Prevention, other innovation projects and programs and the environmental benefits achieved by such programs can be found at http://www.epa.gov/compliance/incentives/index.html

Conditions to qualify for the Audit Policy are as follows. The violation had to be from a systematic discovery through an environmental audit or due diligence. It has to have been a voluntary discovery made by the facility. The facility must promptly disclose the violation to the Environmental Protection Agency and the discovery disclosure must be independent of a government or third party plaintiff.

The facility must fix the problem to prevent it from recurring and this audit policy cannot be used to repeatedly for the same violations. It only covers the violations for which you are reporting. If other violations are identified over the course of using the audit policy, they may not be covered. You have to cooperate fully with the EPA and other authorities. More details on the audit policy are available from the EPA Website at the address shown here.

EPA offers a compliance incentive policy to small businesses that self-disclose violations. The Small Business Compliance Policy is only available to businesses with 100 or fewer employees. If a small business meets the conditions, they may be eligible for 100 percent reduction in the gravity based penalty. The conditions to qualify are: a good compliance record, voluntary discovery of the violation, prompt disclosure, and correction and remediation of the violation. More information on the Small Business Compliance Policy can be found at the website shown here.

The Electronic Reporting rule requires that revisions must made electronically using TRI-ME web via EPA's Central Data Exchange. TRI-ME web now supports revisions for all Reporting Years from 1991 through the present.

Be aware that when submitting revisions to forms for Reporting Year 2005 through the present reporting year via the Central Data Exchange to EPA, it will satisfy your state obligations only for states that participate in the TRI Data Exchange. For states that do not participate in TDX and revisions for Reporting Years from 1991 to 2004, facilities must remember to also submit the revision to the state, such as on a diskette or hardcopy.

The Electronic Reporting rule requires that withdrawals must be made electronically via the Central Data Exchange using TRI-ME web. Information on how to properly submit TRI data withdrawal requests can be obtained from TRI-ME web or from the website shown here. As with revisions, submitting withdrawal forms for Reporting Year 2005 through the present reporting year via the Central Data Exchange will only fulfill state obligations for those states that are TDX participants.

Here are a few more reminders regarding revisions and withdrawals. If submitting a Form R to replace a previously filed Form A, this is not considered a revision (do not check the revision box). It is considered a late submission of Form R. You would also need to request that the Form A be withdrawn.

Note that submitting a Form A when a Form R is required is considered a less severe violation than failing to submit either form, but it is considered a late submission.

A common revision is to change the chemical reported from a metal to a metal compound or vice versa. In that case, the original submission must be withdrawn and the form for the new chemical should be submitted. This is not considered a revision.

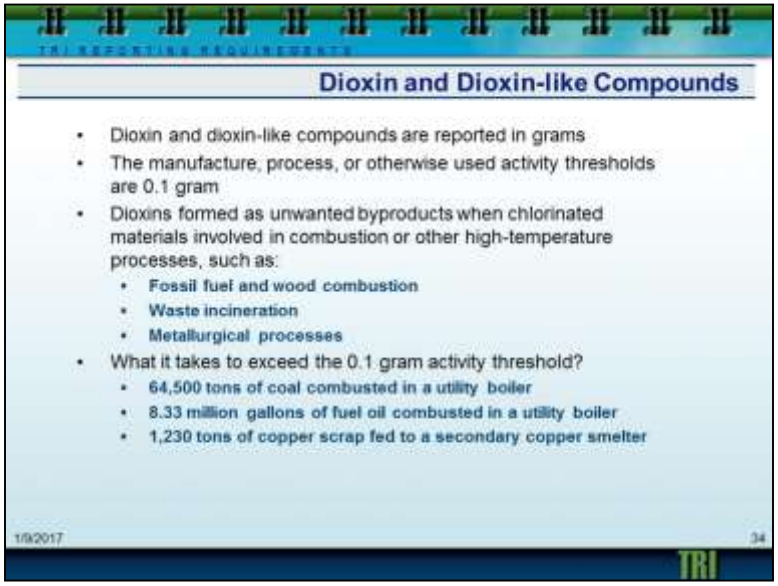
Companies violating any statutory or regulatory requirement are subject to penalties of up to $37,500 per day per violation. The government's Enforcement Response Policy is what is used to determine what the penalty will be. More information on EPA EPCRA enforcement policies can be found at the website shown here.


Section III:
Detailed PBT Guidance
TRI

PBT chemicals are those chemicals that are persistent bioaccumulative and toxic, meaning that they're persistent in that they don't break down in the environment. They're bioaccumulative in that they tend to accumulate in living tissue, and they're toxic chemicals. So because of these characteristics, these chemicals have much lower reporting thresholds and they have unique reporting requirements under TRI.

Here are the 21 chemicals that are designated as PBTs. 9 are organic compounds, 2 are metals and 2 are metal compounds, and 8 of them are pesticides. Several of these PBT chemicals are either banned or severely limited in their use.

The threshold quantity that would trigger reporting for PBTs varies depending upon the individual chemical. However, when reporting for any of the PBT chemicals the Form R must be used, quantities reported can include decimal amounts, range codes are not allowed, and you cannot use the de minimis exemption.



"Dioxin and Dioxin-like Compounds" is a PBT chemical category and, unlike any other TRI chemicals, dioxin and dioxin like compounds are reported using gram units. The dioxin and dioxin-like compound category has a PBT activity threshold of 0.1 grams for a reporting year. Facilities manufacturing, processing or otherwise using 1/10th of a gram of dioxin or dioxin-like compounds, would report for this chemical category.

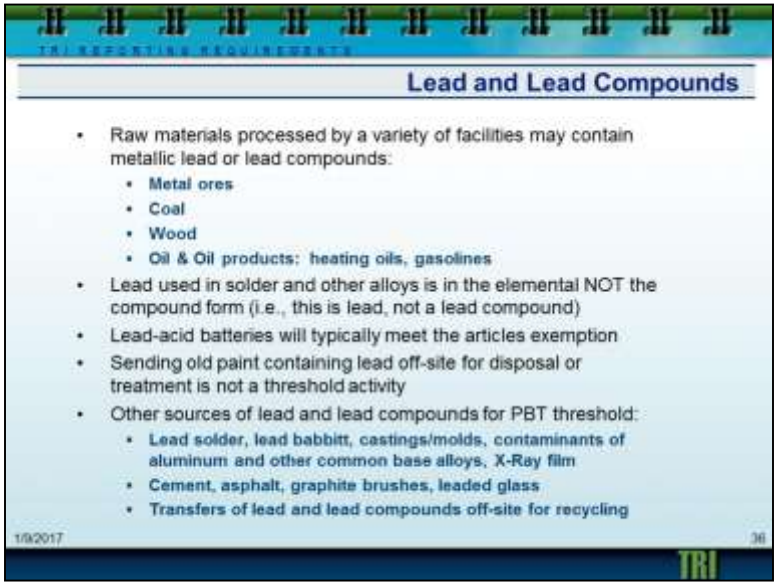
Dioxins can be formed as byproducts when chlorinated materials are involved in combustion or other high-temperature processes. Examples of such processes where dioxins may form include: fossil fuel and wood combustion, waste incineration, or metallurgical processes.

What does it take to exceed a 0.1 gram activity threshold? The list shown here is from the dioxin and dioxin-like compounds guidance document. Using typical concentrations, 64,500 tons of coal combusted in a utility boiler in the reporting year would exceed the dioxin threshold. 8.33 million gallons of fuel combusted would exceed the threshold, again, at typical concentrations of dioxins. Or 1,230 tons of copper scrap fed into a secondary copper smelter would exceed the dioxin threshold.

The dioxin and dioxin-like compounds category is composed of 17 individually listed compounds.

In addition to reporting the total amount of this chemical category in grams, facilities must also report the quantity in grams of each of the 17 individual compounds in the category, if this information is available. Emission factors for dioxin and dioxin-line compounds are typically for individual compounds within the category.

EPA will use the quantities reported to calculate the Toxicity Equivalency Values, or TEQ values, for the dioxin and dioxin-like compounds reported. This information will be made available to the public along with the mass values reported. The dioxin and dioxin-like compounds guidance document has additional information about this category, including the listed chemicals and commonly used emission factors.



“Lead and Lead Compounds” – can be found in a variety of raw materials, such as in metal ores, coal, wood, and in oil products such as heating oils and gasoline.

Lead is also found in circuit board facilities where it is used as solder. And, lead is found in many metal alloys. Lead in solder and alloys is in the elemental, not the compound form. So, facilities using lead solder and metal alloys should consider the quantities of elemental lead in these materials.

Lead acid batteries would typically meet the articles exemption, assuming there are no TRI chemical releases associated with the lead acid batteries.

Old paint can also contain lead. However, removing old paint containing lead and sending it off-site for disposal or treatment is not considered a threshold activity under TRI. Simply transferring a waste containing a TRI chemical off-site for waste management other than recycling is not in itself a threshold activity.

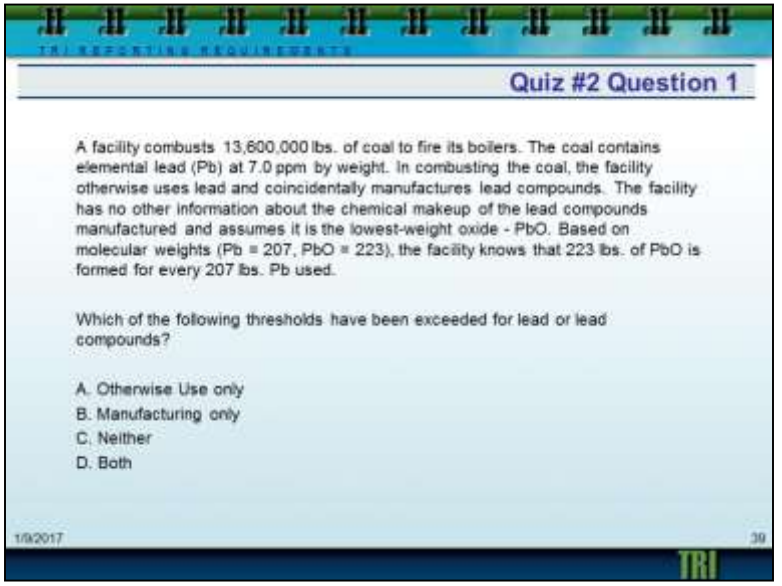
Elemental lead that is not contained in stainless steel, brass or bronze alloys is considered a PBT and has a 100 pound threshold. The lead compounds category always has a 100-pound threshold.

There is also a non-PBT activity threshold for lead and that applies only to lead that is contained in stainless steel, brass, or bronze. In this case the non-PBT chemical thresholds apply, or 25,000 pounds for manufacturing and processing, and 10,000 pounds for otherwise use.

Because there are two different ways to look at lead, for facilities that have both lead in stainless steel, brass and bronze, AND lead not in these alloys, this flowchart can be helpful in determining which thresholds have been exceeded and what reporting requirements apply.

The first step is to quantify all of the lead manufactured processed or otherwise used at the facility, including lead in stainless steel, brass or bronze and lead in the PBT form. If so, the lead in these alloys is not a PBT and compare that to the non-PBT thresholds of 25,000 and 10,000 pounds. Then the facility looks only at lead not in stainless steel, brass, or bronze and compares that to the 100 pound threshold for the PBT form of lead.

Following this flow chart, if neither threshold is exceeded, then no reporting is required. If only the threshold for the PBT form of lead is exceeded then the facility is only required to report on the lead not in stainless steel, brass, or bronze and cannot use a Form A and must follow the reporting requirement specific to PBT chemicals. If only the threshold for the non-PBT form of lead is exceeded, then the facility reports on both the lead in the stainless steel, brass or bronze and the lead not in these alloys, and they follow the reporting requirements for non-PBT chemicals, including the use of the Form A, if they meet those criteria. Finally, if both the thresholds for the PBT form of lead and the threshold for the non-PBT form of lead are exceeded, then the flowchart shows that the facility must report using a Form R on both forms of lead and must follow the reporting requirements for PBT chemicals.


TRI REPORTING REQUIREMENTS
Quiz #2 Question 1
A facility combusts 13,600,000 lbs. of coal to fire its boilers. The coal contains elemental lead (Pb) at 7.0 ppm by weight. In combusting the coal, the facility otherwise uses lead and coincidentally manufactures lead compounds. The facility has no other information about the chemical makeup of the lead compounds manufactured and assumes it is the lowest-weight oxide - PbO. Based on molecular weights (Pb = 207, PbO = 223), the facility knows that 223 lbs. of PbO is formed for every 207 lbs. Pb used.
Which of the following thresholds have been exceeded for lead or lead compounds?
A. Otherwise Use only
B. Manufacturing only
C. Neither
D. Both
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Quiz #2 Question 2

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

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

A. 2.86 lb
B. Range Code 'A'
C. 95.2 lb
D. Either 2.86 lb or Range Code 'A'

PACS and Benzo(g,h,i)perylene are both PBT's. The PACS have a 100 pound threshold. The Benzo(g,h,i)perylene has a 10 pound threshold. These chemicals are usually found in the same sources including in coal, fuel oil, petroleum products, and roofing tars. These chemicals can also be coincidentally manufactured during the combustion of fossil fuels.

Because they are found in asphalt, they are typically present in blacktop. Blacktop used for paving an employee parking lot is exempt under the structural exemption, but other uses of blacktop at a facility probably are not because these uses are process-related. For example, blacktop used for roadways that trucks use to bring materials in and product out of the facility would not be exempt.
Again, as with most of the PBT chemicals, EPA has developed a guidance document that provides much more information on PACs and Benzo(g,h,I)perylene along with specific examples that will help facilities determine their requirements associated with these chemicals.

This table is an excerpt from the PAC Guidance Document. The guidance document provides typical concentrations for PACs in a number of sources. The table also shows the quantity that would need to be used to meet the threshold at these concentrations. For example, the first line shows No. 6 fuel oil at a typical concentration of 2,461 parts per million of PACs. At this concentration, if a facility uses more than 5,140 gallons for No. 6 Fuel Oil during the reporting year, they would exceed the 100-pound reporting threshold.

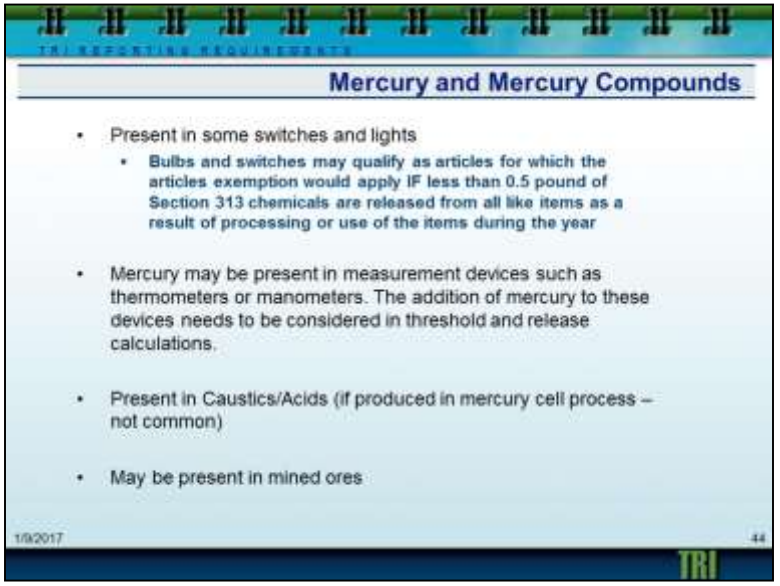
Whereas for No. 2 fuel oil, the typical concentration of PACs is significantly lower at 10 parts per million. So, the table shows that a facility would have to use 1.41 million gallons of No. 2 fuel oil at that concentration before you exceed the 100 pound PACS threshold. Again, these are typical concentrations. If your facility has better information, more specific to the fuels actually used at your facility, that information should be used.

Now let's look at mercury and mercury compounds. The PBT activity threshold is 10 pounds for mercury and it is 10 pounds for mercury compounds. Note that mercury and mercury compounds are two separately listed TRI chemicals. The combustion of fuels is the main source of mercury triggering reporting to TRI. Combustion typically involves the otherwise use of mercury compounds in fuels and the manufacture of elemental mercury.
If you do not know the mercury compound present in a fuel, EPA recommends using mercurous oxide for threshold calculations of otherwise use. In the absence of better information, EPA also recommends that facilities assume that all releases and other waste management quantities of mercury from the combustion of coal are in the form of elemental mercury.

EPA has developed a mercury guidance document that provides the amounts of fuels required to exceed the 10 pound threshold for typical concentrations of mercury in those fuels.

However, if a facility has better, more specific information on the fuel that they are actually using, they should base their calculations on that information. If they do not have other information, they can use the default information in the mercury guidance.

Some information from that guidance document is shown here. For example, in the case of No. 2 fuel oil, you would need to use about 1.41 billion gallons of Number 2 fuel oil to exceed the reporting threshold, IF the concentration of mercury in the fuel oil was 1 part per Billion. For Number 6 fuel oil, it would take about 1.89 billion gallons. So, this helps give a sense of whether reporting might be required. Alternatively, if the uses of these fuels is not even close to these quantities and there are no other sources of mercury at the facility, reporting would probably not be required.



Here are a few other things to consider regarding mercury. In addition to petroleum products, mercury and mercury compounds might be found in switches and lights. Note, however, that the otherwise use of bulbs and switches would be exempt as an article if you are not a bulb or switch manufacturer AND less than half a pound of the mercury is released during the reporting year from all like items during normal conditions of processing or use.

For example, if a facility purchases and installs mercury switches in a piece of equipment that they manufacture, it would likely meet the article exemption, as long as all like items do not release more than half a pound of 313 chemical as a result of processing or use of the items during the year. If mercury is being added to an instrument, that would NOT be covered by the article exemption.

Facilities should also be aware that mercury might be present in caustics and acids – if it is produced using the mercury cell process, which is not now common. In addition, mined ores may be another source of mercury.

Polychlorinated Biphenyls (PCB's) have a reporting threshold of 10 pounds. Facilities should consider where in their process that they may be using or generating PCBs. PCBs can be manufactured as a byproduct of incomplete combustion. Be aware that recycling of PCBs is considered processing. Also, using PCBs by: adding them into your process equipment; treating them on-site; or disposing of PCB-contaminated waste received from off-site – or combusting PCB-contaminated oil; are all counted towards the otherwise use threshold.

Many facilities ask about how they should report when they ship an old PCB-containing transformer offsite for disposal. PCB transformers are considered exempt as articles if no PCBs are released during their normal use. Note that leaks may negate that article exemption. Also, shipping a product offsite for disposal is not a manufacturing, processing or otherwise use activity– in other words, it is not a threshold activity. Other activities that are not threshold activities include on-site disposal or treatment of PCBs not received from off-site or the off-site shipment of PCBs for disposal or treatment.

So, facilities with old transformers that contain PCBs, and that are just getting rid of them by sending them off-site for disposal, would not need to report on the PCBs, assuming they had no other sources of PCBs at the facility. Just shipping a waste off-site for the purposes of further waste management is not a threshold activity.


Section IV:
Tools and Assistance
TRI

TRI reporters should be aware that the TRI homepage contains a great deal of information to assist facilities with their TRI reporting. All of the relevant statutes and regulations are available, as well as guidance for specific chemicals and industry sectors.

In addition, the TRI Program has developed a Frequently Asked Questions Service. In addition to allowing facilities to browse past questions and answers, it also allows users to submit new questions and receive timely answers. This service can be accessed at the website shown here.

Here are some additional sources of information and assistance with the TRI reporting, in general. The first is the TRI program webpage which has a great deal of chemical-specific and industry-specific guidance and all of the reporting forms and instructions.

In addition, EPA's air pollution emission factors are available in a document called the AP-42. The Website for that is also shown here.

There is also a software program called the WATER9 program. This is a PC-based software that assists with estimates of the fate of organic compounds in various wastewater treatment units.

TANKS is also a PC-based program used to estimate emissions of organic chemicals from several different types of storage tanks. This software uses a database of over 100 different liquid organic chemicals. It includes meteorological data which – from over 250 cities in the US to help with those calculations. Those are both also available from the EPA Website shown here.

Facilities that are interested in using source reduction techniques to reduce their TRI chemical use and wastes can get assistance from the EPA's office of Pollution Prevention and the Pollution Prevention Information Clearinghouse, at the websites and telephone number shown here.

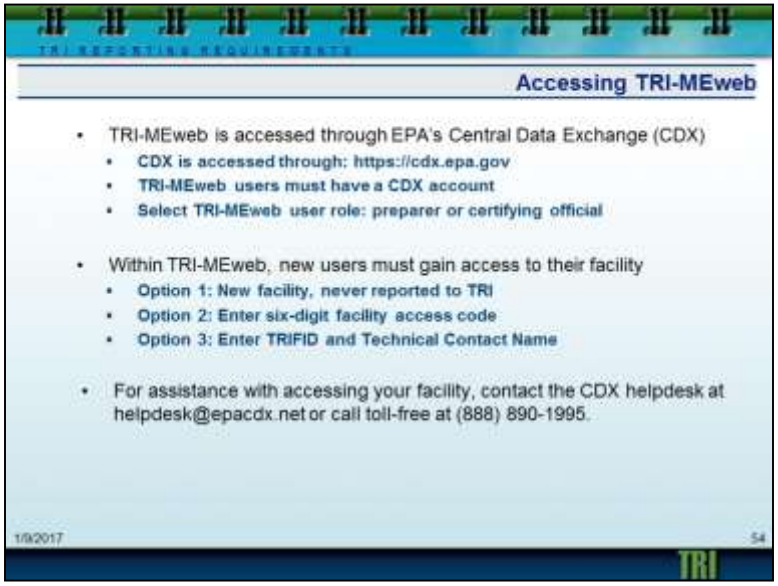
If you want more information about TRI-ME web and the central data exchange, please use the CDX hotline and email address shown here. For information on TRI in general, facilities can call the TRI information center at the numbers shown here.


Section V:
TRI-MEweb
TRI

All TRI reports must be submitted via TRI-ME web with the exception of reports claiming a trade secret. Electronic reporting is also required for all withdrawals or revisions for Reporting Years 1991 through the present.

TRI-ME web has features to help reporters with their submissions including pre-populating forms with information from prior year reporting, validation and error checking steps, and e-mail confirmation of transmitted and certified submissions. Additionally, tutorials to help users with TRI-ME web are available on the TRI website.

Paper submissions should only be used for trade secret reporting. Information about trade secret reporting is available on the TRI website.



To begin using TRI-ME web, you must register and log into EPA's Central Data Exchange, also known as CDX, which also hosts many other reporting applications for EPA programs. Users register either as a preparer or a certifying official. Preparers may perform every portion of the submission process except for the final electronic signature or certification step, which must be performed by a certifying official. The certifying official should be in senior management role for the reporting facility or company. Anyone representing the facility may be a preparer.

To begin reporting for a facility, all uses must gain access to their facility's profile, using one of three options: the first option is to enter the TRI Facility ID and the facility's technical contact name and phone number. The second option is to enter a six-digit access key, which is provided to the technical contact. The third option is to begin a new profile for a facility that has never reported to TRI.

For CDX and TRI-ME web related help, including registering for CDX, password resets, accessing your facility profile in TRI-ME web, or completing an ESA, please contact the CDX helpdesk.

As described on the previous slide, forms must be signed electronically or certified by certifying officials, who should be in senior management roles for the reporting facility or company. This step certifies that the information reported on the TRI form is accurate and complete.

Certifying officials must submit an electronic signature agreement, also known as an ESA. The ESA is only submitted once so long the certifying official remains with the facility. Thus, existing certifying officials will not to resubmit an ESA. New certifying officials should complete their ESA well in advance of the July 1st filing deadline to ensure they will be able to certify forms on time.

Certifying officials now certify new reporting, revisions and withdrawals from a Certification module with-in TRI-ME web. To complete the certification, certifying officials must also answer personalized security questions in addition to their CDX password.

In order to certify forms, certifying officials must complete two steps. The first step is to submit an electronic signature agreement, also known as an ESA, to be able to certify forms. An ESA is submitted only once so long the certifying official continues to represent the facility. There are two options for submitting an ESA. The first option uses a third-party vendor to verify the certifying official's identity, and is completed in real time. The second option is to mail in a signed paper form generated by TRI-ME web, which takes a minimum of five business days to process. Certifying officials should complete their ESA well in advance of the July 1st filing deadline to ensure they will be able to certify forms on time.

Secondly, after the ESA is submitted, certifying officials must complete a TRIFID Certification Agreement for each facility they represent, confirming they are authorized to certify forms for the facility. The TRIFID Certification Agreement is completed within TRI-ME web in the 'Certification' section of TRI-ME web. Similar to the ESA, the TRIFID Certification Agreement is only submitted once so long the certifying official remains with the facility.

For facilities in those states or tribes that participate in the TRI Data Exchange (referred to as TDX), a submittal of their TRI forms to EPA automatically fulfills their state obligations. Also, TRI-ME allows facilities in states or tribes that are not TDX participants to generate hard copies or electronic files on CDs or diskettes for their state reporting.

TDX, however, does not support revisions, withdrawals or new reporting for Reporting Years 1991 through 2004, and any TRI reporting for these years must be separately submitted to the state or tribe.

There are other tools available to assist you with your TRI reporting and using the TRI Made Easy software. EPA has developed on-line tutorials to assist users with the TRI-ME web application. The tutorials cover all of the steps needed to access, submit, and certify TRI forms using TRI-ME web.

They are available from the EPA Website shown here. In order to use them, you must have a web browser and Macromedia Flash capability which you can also download from this Website. There is audio along with the tutorials, so you need to have speakers or a headset.

Facilities that have filed in the past should be familiar with the Facility Data Profiles. This Profile is generated after the data processing center for TRI receives facilities' forms. After they enter the information into a database, they run various data validation steps, and then they produce an electronic facility data profile.

The electronic Facility Data Profile has two purposes: First, it's also called an "echo back" because it echoes back to you the information that the data processing center entered. That gives facilities a chance to confirm that the data were entered correctly. Second, it identifies potential errors. Potential errors include: 1) non-technical errors, such as transposing a CAS number; or 2) technical errors, such as an invalid NAICS code; or 3) a significant error, which would be missing information like a chemical identifier, or the certifying signature. Facilities have 21 days to respond to significant errors pointed out in the electronic Facility Data Profile

Facilities may contact the e-mail address shown here if they have any problems accessing their facility data profiles.

This concludes the Advanced Concepts Module of the TRI Online Training.

On-line tutorials for using the TRI-ME web application can be accessed from the TRI homepage at www.epa.gov/tri.

Also, the Basic Concepts module of this Online Training course is also available from the TRI homepage.


End of Module
TRI