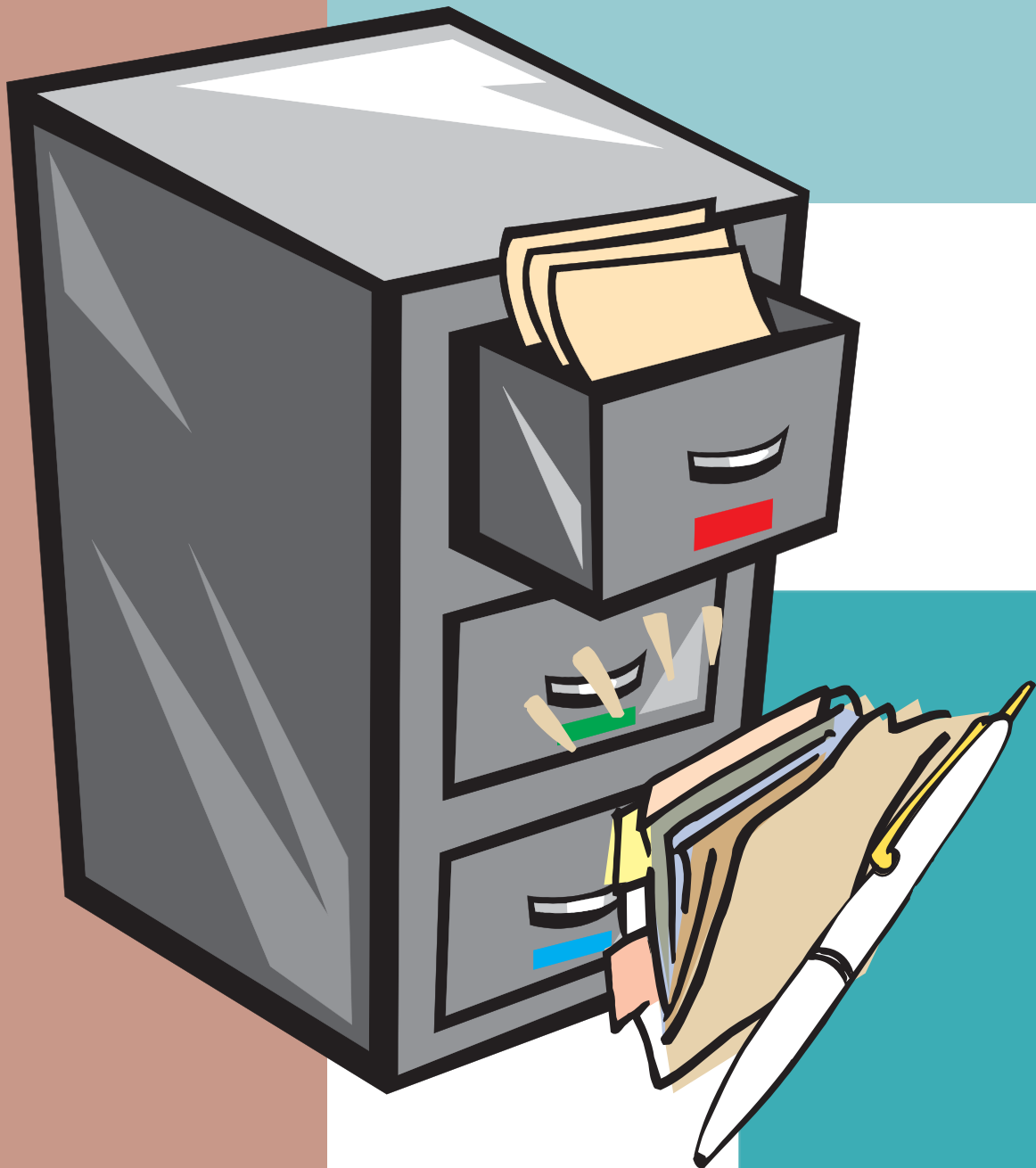
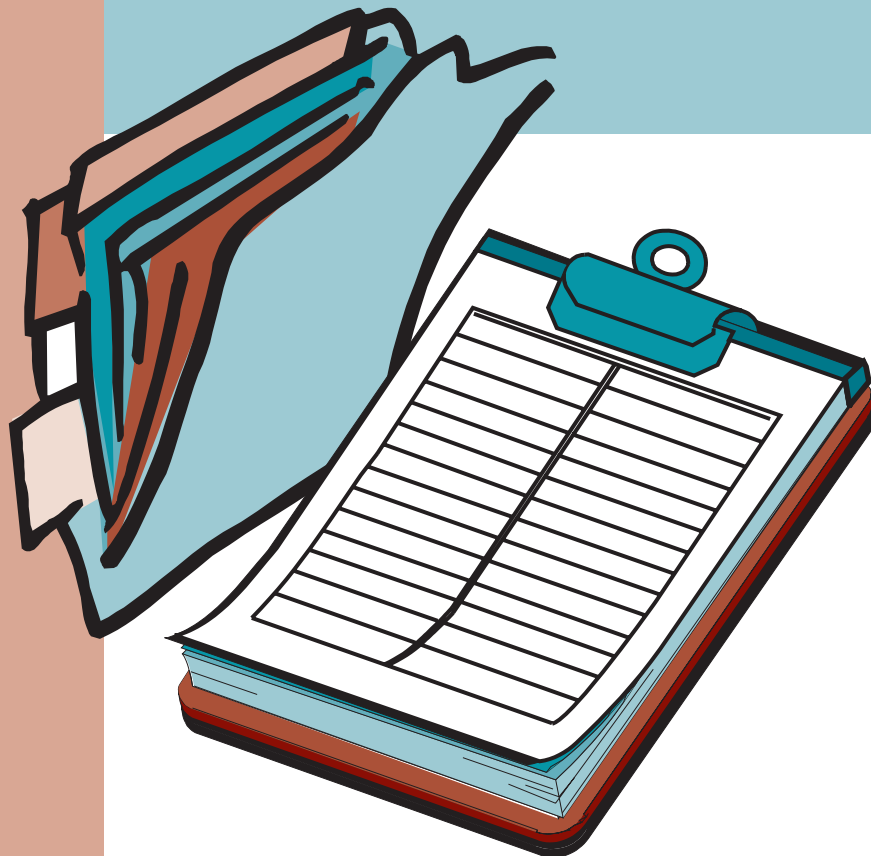


How to Inventory Your Waste for Environmental Compliance



How to Inventory Your Waste for Environmental Compliance



O K L A H O M A
DEPARTMENT OF ENVIRONMENTAL QUALITY

...for a clean, attractive, prosperous Oklahoma

Customer Service Division
Pollution Prevention Program



Acknowledgement

This document was adapted from a publication created by the Pacific Northwest Pollution Prevention Resource Center (PPRC). The original publication owed much to the input of the employees of the environmental agencies in the Pacific Northwest (Alaska, Idaho, Washington and Oregon) and the support of USEPA Region 10.

Disclaimer

This compliance and pollution prevention informational guide was created to provide multi-media compliance and pollution prevention assistance, and to aid small business owners with questions concerning environmental issues. This information is not a comprehensive document covering every environmental regulation that could affect a business. It is the responsibility of the owner/operator to stay abreast of changes in environmental regulations that govern his/her industry.

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How Can This Workbook Help You?

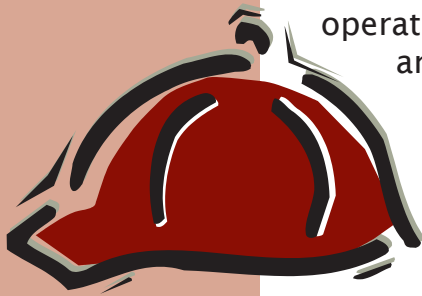
This workbook will help you learn how to:

- Lower your operating costs
- Provide safer conditions for workers
- Reduce costs of environmental compliance
- Protect the environment
- Reduce exposure to future liability
- Improve your company's public image.

This guide is divided into easy-to-follow Sections written to help you better identify and calculate the types and quantities of wastes generated and emitted from your shop,

understand the environmental regulations associated with these wastes, and identify opportunities to reduce or eliminate the generation of pollution.

Typical Wastes Encountered in Manufacturing



Regulated wastes and emissions from manufacturing operations can include liquid and solid hazardous wastes, air emissions, and wastewater. Manufacturers also produce non-hazardous solid

waste. Figure 1 shows typical wastes from a manufacturing environment. Look around your business and consider how this figure applies to you.

Figures 1-1b will help guide you in identifying common manufacturing wastes.

Figure 1 Typical Wastes Encountered in Manufacturing

• Aerosol cans	• Parts washer sludge/solvent
• Cleaners	• Process water
• Cleanup absorbents (floor dry)	• Solvent still sludge
• Contaminated antifreeze	• Spent hydraulic oil
• Contaminated fuel	• Spent processing chemicals and rinsewater
• Contaminated used oil	• Surface coating materials
• Dirty shop towels	• Tramp oils§Vehicle maintenance wastes
• Hazardous Air Pollutants	• Volatile organic compound (VOC) air emissions
• Packaging waste	• Waste acids (hydrochloric, nitric, sulfuric, chromic, etc.)
• Paint-related wastes (sludge, strippers, thinners, etc.)	• Waste adhesives
• Paint chips and sandblast media	• Waste batteries/battery fluids
	• Waste solvent

Typical Wastes Encountered in the Metal Fabrication Process

Regulated wastes and emissions from metal fabrication operations can include liquid and solid hazardous wastes, air emissions, and wastewater. Fabricators also produce non-hazardous solid waste (such as scrap metal). These wastes can be associated with the

four general process steps: pre-fabrication, fabrication post-fabrication and maintenance. Figure 1a shows these four steps and the typical wastes that each step produces. Look around your business and consider how this figure applies to you.

Figure 1a Typical Wastes Encountered in the Metal Fabrication Process

PRE-FABRICATION	FABRICATION	POST-FABRICATION	MAINTENANCE
Cutting fluids	Waste solvent	Degreasing solvents	Antifreeze
Solvent cleaners	Welding anti-spatter	Cleaning wastewater	Waste oil
Absorptive material floor dry, vermiculite)	Welds surface preparation (solvents)	Alkaline cleaners	Spent solvent from parts washers
Contaminated shop towels		Etching acids	Brake cleaners
Metal swarf		Solvent saturated rags	Carburetor cleaners
Tramp oil		Surface coatings (paints, primers)	Spent coolant
Biocides/fungicides/ bactericides		Spent spray gun cleaners	Spent cutting fluid
Extreme pressure additives		Paint strippers Solvent distillation sludge	Fluid absorbents Batteries

Typical Wastes Encountered in the Printing Process

Regulated wastes and emissions from commercial printing operations can include liquid and solid hazardous wastes, air emissions, and wastewater. Printers also produce non-hazardous solid waste (such as scrap paper). These wastes can be associated with the

four general process steps: imaging, pre-press, press (including the make-ready step for lithographic printing), and post-press. Figure 1b shows these four steps and the typical wastes that each step produces. Look around your business and consider how this figure applies to you.

Figure 1b Typical Wastes Encountered in the Printing Process

IMAGING	PRE-PRESS	PRESS	POST-PRESS
Exposed and waste film	Damaged or unusable plates	Empty ink containers	Paper scrap
Scrap paper	Empty chemical containers	Unacceptable prints	Glue/adhesive waste
Aerosol cans	Spent processing chemical and rinsewater	Volatile organic compound (VOC) air emissions	Packaging waste
Spent developer		Waste ink/solvent	
Spent fixer		Soiled rags and paper wipes	
Used rinsewater		Unusable plates	
Dirty shop towels		Spent fountain solutions	
Empty chemical containers		Used or damaged blankets	
Waste proofs		Spent equipment oil	

Creating a list of all of the waste streams at your facility makes good business sense. An inventory of wastes will:

- 🗑️ Allow you to distinguish between wastes that are considered hazardous, air emissions or water pollutants and wastes that can be recycled or landfilled.
- 🗑️ Help you make changes in your operating practices as regulations change. Since you will know what wastes are considered hazardous and the quantities of these wastes, the impacts of regulations will be easy to identify.
- 🗑️ Guide you on controlling costs associated with meeting your environmental responsibilities.

Checklist

The sections listed below should be checked off after you have completed the suggested action in that particular section. Once this list is completely checked off you have successfully progressed through the waste inventory

process and have gained a better awareness of your waste streams and how those wastes are regulated. You will have the knowledge to begin to eliminate or reduce these waste streams by implementing pollution prevention opportunities.

1. Creating Waste Inventory Lists

- ☐ Hazardous/solid waste inventory
- ☐ Air emission sources inventory
- ☐ Water pollution sources inventory

2. Understanding Hazardous Wastes

- ☐ Determine if wastes are hazardous, recyclable or landfillable
- ☐ Quantify monthly generation of hazardous wastes
- ☐ Determine hazardous waste generator status
- ☐ Identify requirements for being a hazardous waste generator

3. Understanding Air Emission Sources

- ☐ Determine if products contain hazardous air pollutants and other air toxics
- ☐ Estimate annual emissions of criteria pollutants and/or hazardous air pollutants
- ☐ Determine air emission source status (major or area source)
- ☐ Determine if you are subject to any specific federal air quality standard

4. Understanding Water Pollution Sources

- ☐ Understand responsibilities and requirements for having water pollution sources

5. Emergency Planning & Community Right-to-Know (EPCRA)

- ☐ Reporting requirements
- ☐ Steps to Compliance



Section 1: Creating Your Inventory Lists

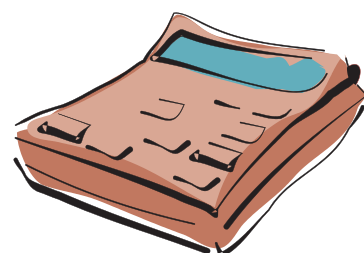
1: Creating Waste Inventory Lists

This section will help you develop your own inventory list of hazardous waste streams, air emission sources and water wastes for the processes in your facility.

Fill out the worksheets to inventory your hazardous and solid wastes, air emissions and water pollution sources. Each worksheet has different instructions, so be sure you record hazardous and solid wastes on the “[Hazardous/Solid Waste Inventory](#)” worksheet; record air emission sources on the “[Air Emission Sources Inventory](#)” worksheet; and record water wastes on the

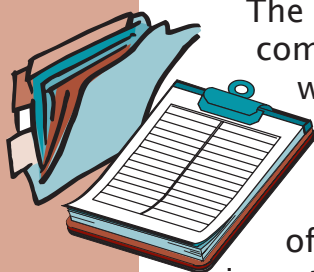
“[Water Pollution Sources Inventory](#)” worksheet.

If you use a computer, you may prefer to create your own tables or spreadsheets and enter this information electronically to make calculating and manipulating of the data easier.



Obtain a MSDS for Each Waste on Your Inventory Lists

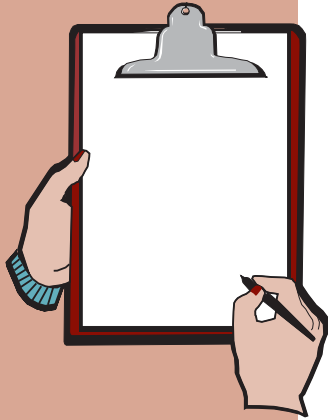
The Occupational Safety and Health Administration’s (OSHA) Hazard Communication (Worker-Right-to-Know) rule requires all businesses to maintain an up-to-date collection of Material Safety Data Sheets (MSDSs) for all products used onsite that may affect employee safety or health. You should already be maintaining a full set of relevant MSDSs in a file that is accessible to all employees at your business.



The MSDSs will be used to complete the steps in this workbook. You will need to have a copy of the MSDS for each product that is part of a waste you list on the inventory worksheets. If your

file is missing a specific MSDS, the best place to obtain a new one is from the product vendor. Vendors are required by law to generate MSDSs for their products and provide copies on demand to customers. If you are not able to get a MSDS you need from a vendor, other possible sources are specialized libraries or the Internet. Librarians at your local college/university often will have access to MSDS databases. Check the local government section in your telephone book to find out if an environmental or chemistry library is available to you in a government agency or college. There are also several MSDS databases on the Internet (see Appendix A: Internet Resources).

HAZARDOUS/SOLID WASTE INVENTORY



Step 1: Record all of the “possible” hazardous wastes and all “possible” solid wastes you identify in your facility under the “Waste” column.

Step 2: Find the MSDS or product data sheet for each recorded waste (check the “MSDS” column when you have found this sheet).

Note: MSDSs are only one tool for waste determination. Other methods, like lab analysis or knowledge of process can be used as tools for waste determination.

Step 3: For now, leave the “Determined To Be...” and “Total Pounds/Month” columns blank. You will complete these sections later in this process.

Step 4: When all of your potential hazardous wastes are written down, go to your copy of the “**Air Emission Sources Inventory**” worksheet and follow the instructions.

AIR EMISSION SOURCES INVENTORY

Step 1: Record all of the “possible” air emission sources you identify in your facility under the “Emission Source” column.

Step 2: Find the MSDS or product data sheet for each recorded emission source. (Check the “MSDS” column when you have found this sheet).

Step 3: For now, leave the “Determined To Be...” and “Total Annual Tons” column blank. You will complete these sections later in this process.

Step 4: When you have recorded all of your air emission sources, go to your copy of the “Water Pollution Sources Inventory” worksheet and follow the instructions.

WATER POLLUTION SOURCES INVENTORY

Step 1: Record all of the “possible” water pollution sources you identify in your facility under the “Water Pollution Source” column. For now, leave the “Water Test” and “Determined to Meet Sewer Discharge Limits” blank. You will complete these sections later in this process.

If you have questions or need help with your waste inventories, call the DEQ Customer Services Division at (405) 702 1000 or (800) 869 1400.



The following Inventory Charts should remain intact.

There are extra charts, which are located in the back of this book that can be detached and used for your convenience.

INVENTORY OF POSSIBLE HAZARDOUS AND SOLID WASTES _____

Waste	MSDS	Determined to be . . .		Total Pounds per Month
		Hazardous	Non-hazardous	
Total Pounds of hazardous Waste per Month				

INVENTORY OF POSSIBLE HAZARDOUS AND SOLID WASTES _____

Waste	MSDS	Determined to be . . .		Total Pounds per Month
		Hazardous	Non-hazardous	
Total Pounds of hazardous Waste per Month				

[illegible]

Total Pounds of all Regulated Chemicals per Month

[illegible]

Total Pounds of all Regulated Chemicals per Month





[illegible]

[illegible]

Section 2: Understanding Hazardous Waste

2: Understanding Hazardous Wastes

This section will help you:




-  Determine whether the wastes you identified in your “Hazardous/Solid Waste Inventory” worksheet are hazardous
-  Calculate the pounds of hazardous waste generated on a monthly basis
-  Determine your generator status
-  Understand some of the basic requirements for your generator status

You will need your copy of the “[Hazardous/Solid Waste Inventory](#)” worksheet from Section 1 with accompanying MSDSs to proceed with the determination process.

DETERMINE WHETHER WASTES ARE HAZARDOUS OR NON-HAZARDOUS

1. Characteristic Hazardous Wastes — These are wastes that have certain characteristics (ignitable, reactive, corrosive and/or toxic) that distinguish them from other solid waste materials.

2. Listed Wastes — These are wastes, specifically listed in the hazardous waste regulations. “F-listed” hazardous wastes are generally spent cleaning solvents that contain 10% or more of at least one hazardous chemical. If your cleaning products contain any of these chemicals (concentrations of 10% or more) they are automatically considered hazardous waste when disposed.

-  Non-specific sources (F-list)
-  Specific sources (K-list)
-  Commercial/unused chemicals (P, U-lists)

Methods used to determine whether wastes are hazardous:

a. Knowledge of Process — This method allows business owners to use knowledge of the wastes generated from their processes in deciding whether they have a listed waste, whether further waste analysis should be conducted, or if lab analysis is needed, what type of analysis that should be used.

b. Waste Analysis — This method allows the business owner to use available raw material data to determine whether the waste stream should be further analyzed in a laboratory. By conducting a waste analysis, you can determine whether the wastes have hazardous characteristics.

Use MSDS to Help Make Hazardous Waste Determination

You can use each product's MSDS to help determine whether your waste streams meet any of the hazardous waste criteria described below. This section will explore how to

apply the information contained in a MSDS to determine whether that product meets the criteria for a Characteristic Waste or an F-Listed Waste.

Note: MSDSs are used as a screening tool to determine whether each raw material possesses hazardous characteristics. You should apply the waste analysis method to determine unequivocally whether a waste is hazardous.

First, take your “**Hazardous/Solid Waste Inventory**” worksheet and the MSDSs you have for each of the products that are found in the waste. Read through the steps (below) to determine if a waste is hazardous. If you determine that the waste can be

considered hazardous, check that column on your inventory worksheet for the particular waste. If you determine that the waste does not meet any of the hazardous waste criteria, check the “**Non-hazardous**” column.



Step 1. Determine Whether the Waste Meets Criteria of Characteristic Wastes

- 1 a. Refer to Section IV of the MSDS, usually called “Fire and Explosion Data,” to find out what the flash point is for this product. If the flash point meets the definition of ignitable, below, the waste has a hazardous characteristic.

Ignitable

- Any liquid waste that has a flash point below 140° F (60° C)
- Any non-liquid capable of spontaneous combustion under normal conditions. An ignitable compressed gas or oxidizer.

- 1 b. Refer to Section III of the MSDS, usually called “Physical Data,” to find out what the pH level is for this product. If it meets the definition of “corrosive,” then the waste has a hazardous characteristic.

Ignitable Wastes (Common in Industry)

- Wash solvents
- Methyl ethyl ketone
- Solvent-based coatings

Corrosive

—An aqueous (water-based) material with a pH less than 2.0 or greater than 12.5.

- 1c. Refer to Section VI of the MSDS, usually called “Reactivity Data,” to find out if this product is stable under all circumstances. If it is unstable or “reacts” (see definition below) with certain other materials, the waste has a hazardous characteristic.

Corrosive Waste (Common Industry)

- Acid
- Waste battery acid
- Highly alkaline cleaners

Reactive

—Unstable materials that react violently without detonating
—React violently with water or form an explosive gas, vapor or fume when mixed with water
—Contain cyanide or sulfide and generate toxic gas vapors/fumes at a pH between 2 and 12.5

- 1d. Refer to Section II of the MSDS, usually called “Hazardous Ingredients,” and find out if this product contains constituents that would cause the waste to be toxic. You can also have a laboratory conduct a Toxicity Characteristic Leaching Procedure (TCLP) test. If the waste contains hazardous ingredients in certain concentrations, it has a hazardous characteristic.

Reactive Wastes (Common in Industry):

- Waste bleaches
- Oxidizers

Toxic

—Contains specific constituents above threshold levels
—Typically determined using the TCLP test

Toxic Wastes (Common in Industry)

- Process waste water
- Clean-up solvents
- Inks, surface coating materials
- Corrosive cleaners

Call DEQ Customer Services Division at (800) 869 1400 or (405) 702 1000 to locate a testing facility in your area. This test will determine the amount of toxic materials in the waste stream.



If you need help determining whether a waste meets the criteria of a characteristic waste call DEQ Customer Services Division at (405) 702 1000 or (800) 869 1400.

Step 2. Determine Whether the Waste Meets the Criteria for F-listed Wastes

F-Listed wastes, which are specifically listed in the hazardous waste regulations, are generally spent cleaning solvents that contain 10% or more of at least one hazardous chemical. If your cleaning products contain any of these chemicals (concentrations of 10% or more) they are automatically considered hazardous waste when disposed.

Refer to Section II of the MSDS, usually called "Hazardous Ingredients," and compare the chemicals found in your product with the list of F-listed chemicals below. If you find one of the chemicals match with the list and is in concentration 10% or more, then this waste has a hazardous characteristic.

F-Listed Chemicals Common in Industry

acetone	cresols and cresylic acid
benzene	n-butyl alcohol
carbon tetrachloride	2-nitropropane
carbon disulphide	ortho-dichlorobenzene
chlorinated fluorocarbons	pyridine
chlorobenzene	tetrachloroethylene
cyclohexanone	toluene
2-ethoxyethanol	trichloroethylene
ethyl ether	1,1,1-trichloroethane
isobutanol	1,1,2-trichloroethane
methanol	1,1,2-trichloro-1,2,2-trifluoroethane
methylene chloride	trichlorofluoromethane
methyl ethyl ketone (MEK)	xylene
methyl isobutyl ketone (MIBK)	ethyl acetate
ethyl benzene	nitrobenzene

Note: Any still bottoms generated from the distillation or recycling of these solvents must be managed as a hazardous waste.

If you need help determining whether a waste meets the criteria of F-listed wastes call DEQ Customer Services Division at (405) 702-1000 or (800) 869-1400.



Step 3. Have a Laboratory Conduct a Toxicity Test on the Waste Stream

It is important to understand that several other products may have contaminated some of your waste streams. For example, you may have used oil that alone does not have characteristics of a hazardous waste. But if the oil comes in contact with a solvent, that oil may now have a hazardous

characteristic. One fail-safe way to determine if a waste is hazardous is to have a laboratory perform a test on the waste stream. If the test shows that toxic substances found in the waste are above certain thresholds, the waste is considered hazardous.

Caution: Do not mix hazardous wastes with non-hazardous wastes. This practice could change your generator status, resulting in more stringent regulatory requirements.

If you have questions about locating a testing laboratory call DEQ Customer Services Division at (405) 702-1000 or (800) 869-1400.



When you have determined if wastes are hazardous, recyclable or landfillable. Check off this action on the Checklist and go on to the next action.

QUANTIFY MONTHLY GENERATION OF HAZARDOUS WASTES

Now that you have determined whether your wastes are hazardous, you can calculate how many pounds of each waste you generate in one month. This is necessary because your regulatory

requirements depend on the total amount of hazardous waste generation in a one-month period. There are several ways to calculate the total monthly generation of a hazardous waste:

Method 1

Determine the density (pounds per gallon) of each waste and multiply that by the actual number of gallons of that waste you generate in one month. The density of your waste can be estimated by referring to the MSDS for the product that makes up the waste. Some MSDSs will give you the actual weight of the product per gallon. Other MSDSs will only give you a specific gravity for the product. If your MSDS uses specific gravity, multiply that number by 8.34. (specific gravity x 8.34) to convert to pounds per gallon. Use this weight to calculate your monthly generation.

Example: You generate 20 gallons of wash solvent in one month and solvent has a density of 7 lbs./gal.

 20 gal. X 7 lbs./gal. = 140 lbs.

Method 2

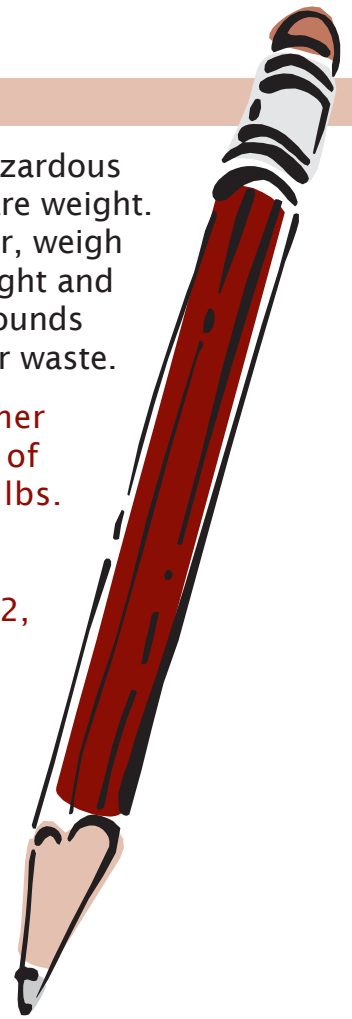
If you have access to a scale, weigh your hazardous waste storage container. This weight is the tare weight. After one month of filling this waste container, weigh it. Subtract the tare weight from this new weight and this will give you an approximate weight in pounds for one month of generation of that particular waste.

Example: You have a waste sludge container with a tare weight of 1 lb. and at the end of the month you weigh the container at 50 lbs.

 $50 \text{ lbs.} - 1 \text{ lb.} = 49 \text{ lbs.}$

Note: Whether you use Method 1 or Method 2, be sure to record your calculated weight for each hazardous waste stream on your “Hazardous/Solid Waste Inventory” worksheet and then total all of the hazardous wastes together.

When you have quantified your monthly generation of hazardous wastes, check off this action on the Checklist and go on to the next action.



DETERMINE HAZARDOUS WASTE GENERATOR STATUS

Hazardous Waste: _____ lbs. per month

Enter the total quantity in pounds (lbs.) you calculated from your “Hazardous/Solid Waste Inventory” worksheet in the above space. Use this number

to determine what size hazardous waste generator you are according to the following information.

Conditionally Exempt Small Quantity Generator (CESQG)

- 1) A company that generates less than 220 lbs. (typically 20-25 gallons) of total hazardous waste, or less than 2.2 pounds of acutely hazardous waste* and/or waste that is extremely hazardous due to toxicity in a single calendar month.
- 2) In addition, the company never accumulates more than 2,200 pounds of hazardous waste or 2.2 pounds of acutely hazardous waste* and/or waste that is extremely hazardous due to toxicity at any time.

(*Acutely hazardous waste is generally more dangerous and/or more toxic than other listed wastes. Acutely hazardous wastes are listed as P-listed wastes.)

Small Quantity Generator (SQG)

- 1) A company that generates more than 220 lbs., and less than 2,200 lbs. of hazardous waste per month, and less than 2.2 pounds of acutely hazardous waste in a single calendar month.
- 2) Additionally, the company never accumulates more than 2,200 pounds of dangerous waste or 2.2 pounds of acutely hazardous waste at any time.

Large Quantity Generator (LQG)

- 1) A company that generates more than 2,200 lbs. of hazardous waste in a single calendar month.
- 2) As discussed below in "Identify Requirements for Being a Hazardous Waste Generator," generators who have the smallest status have the fewest requirements.
- 3) If you find you are a SQG or LQG, you will want to reduce your monthly generation of waste so you can enjoy the less burdensome requirements of a small quantity (or conditionally exempt) generator. This can be accomplished by reviewing and implementing best management practices and pollution prevention opportunities.



If you have questions about your requirements for being a waste generator call DEQ Customer Services Division at (405) 702 1000 or (800) 869 1400.

When you have determined your hazardous waste generator status, check off this action on the Checklist and go on to the next action.

IDENTIFY REQUIREMENTS FOR BEING A HAZARDOUS WASTE GENERATOR

Generator Classification: _____

Write in your generator classification (CESQG, SQG, or LQG) in the space above and follow the appropriate chart (on the following page) to identify some of your hazardous waste requirements and recommendations.

If you have questions about your requirements for being a waste generator call DEQ Customer Services Division at (405) 702 1000 or (800) 869 1400.



Hazardous Waste Generator Requirements According to Classification: _____

You are a:

Large Quantity Generator _____

if in a calendar month you:

- Generate 2.2 or more pounds of acutely hazardous wastes
- Generate 2,200 or more pounds of hazardous wastes

Therefore you must:

- Identify all hazardous wastes
- Obtain an EPA identification number
- Properly package wastes
- Properly label and mark containers
- Accumulate hazardous waste on
 - site no more than 90 days
- Placard waste for shipment
- Comply with state and federal DOT transportation requirements
- Use a manifest to ship hazardous wastes and maintain copies of the manifests for three years
- Use only transporters registered with ODEQ and with EPA ID numbers
- Use only storage, treatment and disposal facilities with EPA ID numbers
- Ship waste to regulated hazardous waste facilities within 90 days
- Recycle hazardous waste on-site within 90 days
- Prepare contingency plans, emergency procedures, and personnel training
- Meet preparedness and prevention requirements
- Keep records - Submit quarterly reports to ODEQ
- Pay Fees
- Maintain current disposal plan
- Maintain current EPA notification of hazardous waste activity

continued on next page...

Small Quantity Generator

if in a calendar month you:

- Generate between 220 and 2,200 pounds of hazardous wastes

Therefore you must:

- Identify all hazardous wastes
- Obtain an EPA identification number
- Properly package wastes
- Properly label and mark containers
- Accumulate hazardous waste on-site no more than 180 days or 270 days if transporting more than 200 miles
- Placard waste for shipment
- Comply with state and federal DOT transportation requirements
- Use a manifest to ship hazardous wastes and maintain copies of the manifests for three years
- Use only transporters registered with ODEQ and with EPA ID numbers
- Use only storage, treatment and disposal facilities with EPA ID numbers
- Ship waste to regulated hazardous waste facilities within 180 days
- Recycle hazardous waste on-site within 180 days
- Prepare modified contingency plans, emergency procedures, and personnel training
- Meet preparedness and prevention requirements
- Keep records - Pay Fees- Maintain current EPA notification of hazardous waste activity

Conditionally Exempt Small Quantity Generator

if in a calendar month you:

- Generate less than 2.2 pounds of acutely hazardous waste
- Generate less than 220 pounds of hazardous waste

Therefore you must:

- Identify all hazardous waste
- Ensure delivery of hazardous waste to a permitted treatment, storage, or disposal facility
- Recycle hazardous waste on-site- Never accumulate at any time more than 2,200 pounds of hazardous waste

Oklahoma Tax Credit

Oklahoma businesses can receive a 20% credit on state income taxes for investing in equipment to reduce hazardous waste generation.

Section 3: Understanding Air Emission Sources

3: Understanding Air Emissions Sources

This section of the workbook will help you:

- Determine if the air emission sources you identified on your “Air Emission Sources Inventory” worksheet contain regulated chemicals
- Perform simple calculations to estimate your annual use of these chemicals
- Determine your status as an air emitter based on the quantity of chemicals used
- Understand some of the basic requirements for your source status and air pollutant emitting equipment.

You will need your copy of the “Air Emission Sources Inventory” worksheet with accompanying MSDSs to proceed with the determination process

TYPICAL PROCESSES THAT MAY BE SOURCES OF AIR EMISSIONS

Painting operations, welding, solvent cleaning, natural gas combustion, plating, etc.

DETERMINE IF PROCESS MATERIALS CONTAIN REGULATED CHEMICALS

This section will help you determine whether your process materials contain chemicals on one of three lists:

- 1) Chemicals regulated as “criteria pollutants” – volatile organic compounds (VOCs), particulate matter, oxides of nitrogen, and others
- 2) Chemicals regulated as Hazardous Air Pollutants (HAPS)
- 3) Very toxic chemicals used as cleaning solvents

Many chemicals are on more than one of the three lists.



Using the MSDS you have for each air emission source you identified on your “Air Emission Source Inventory” worksheet, complete the following steps:

- Step 1:** Go to Section 2 of the MSDS, usually called “Ingredients,” which lists all of the chemicals that make up that particular product. Look those ingredients over.
- Step 2:** Go to the Section that lists the “Physical and Chemical Properties”, usually Section 9, and look for the VOC content in lbs/gal. You may have to do some conversions if it is not listed in lbs/gal.
- Step 3:** Go to the “Individual MSDS Emissions Tables” and list each chemical in the table and fill in the appropriate columns.
- Step 4:** If you believe that a particular chemical is found in other products, check Column A to remind you to go back and include them in your summations.
- Step 5:** Continue evaluating the MSDSs.
- Step 6:** Check the appropriate column on your “**Air Emission Sources Inventory**” worksheet when you determine the nature of the chemicals you use (189 HAPs, Halogenated Cleaning Solvent, significant VOC source).

If you are unsure whether a product contains hazardous air pollutants or need any other help with reading MSDSs, call DEQ Customer Services Division at (405) 702 1000 or (800) 869 1400.

Table 1: Chemicals on the List of 189 HAPs that are Commonly Used in Industry

Benzene	Isophorone
Cadmium compounds	Lead compounds
Carbon tetrachloride	Methanol
Chromium compounds Cumene	Methyl ethyl ketone
Dibutylphthalate	Methylene Chloride
Diethanolamine	Tetrachloroethylene
Ethyl benzene	Polycyclic organic matter
Formaldehyde	Propylene oxide
Glycol ethers	Toluene
Hexane	2,4-toluene diisocyanate
Hydrochloric acid	1,1,1-trichloroethane
	Vinyl chloride
	Xylene

Halogenated Cleaning Solvents

Some of the cleaning liquids in parts washers are considered very toxic and are heavily regulated. If you use a parts washer, refer to the cleaning liquid's MSDS to determine if the liquid contains any of the

chemicals listed in Table 2 (below). If you find that the cleaning product you are using does contain any of the chemicals in Table 2, call DEQ Customer Services Division at (405) 702 1000 or (800) 869 1400.

Table 2: Chemicals on the List of HAPs Commonly Used in Cleaning Equipment

Carbon tetrachloride	Chloroform
Methylene chloride	Perchloroethylene
Trichloroethylene	* 1,1,1-trichloroethane

* These chemicals are listed as stratospheric ozone depleting chemicals. Products cleaned with these chemicals may need warning labels.

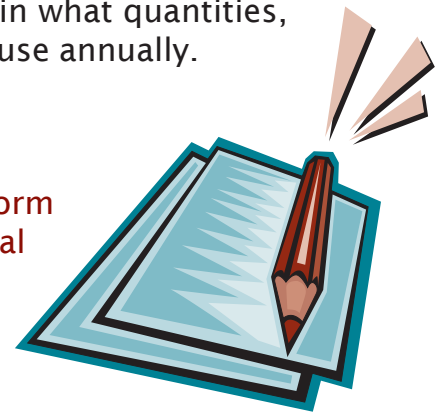
When you have determined if products contain hazardous air pollutants and other air toxics, check off this action on the Checklist and go on to the next action.

ESTIMATE ANNUAL USE OF REGULATED CHEMICALS

You should now have a group of MSDSs for process materials that contain regulated chemicals. Write down the product's name and the chemicals in that product in the appropriate spaces of the

Tables (on page 25). Then, follow steps 1-5 to determine how many chemicals, and in what quantities, you use annually.

The following steps will help you perform a mass-balance calculation of your annual emissions. This method is used to estimate the amount of chemical in your products, and assumes 100 percent of the chemical is emitted (VOCs in paint, for example).



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Step 1. Calculate Total Annual Usage of Regulated Chemicals

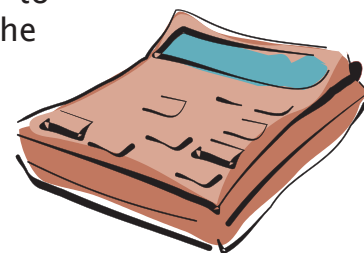
- Using invoices, add up the total gallons purchased of a product in one year. Multiply this total by the density (lbs./gal.) of the product and record this figure in the “Total Pounds of Product” column in the table. (The lbs./gal. is usually shown in the Physical/Chemical Data section of the MSDS.)
- If **specific gravity** is given instead of actual lbs./gal multiply the specific gravity by 8.34 to get lbs./gal. Multiply this figure by total gallons purchased, and record the total in the “Total Pounds of Product” column.
- For example, if you purchased 2,000 gallons of paint that has a specific gravity of 1.1. (To convert specific gravity to lbs./gal. multiply 1.1 by 8.34, which equals 9.17.) Next, multiply 2,000 gallons by 9.17 to calculate the total pounds of the product.

Example: 2,000 gallons x 9.17 lbs./gallon = 18,340 lbs. of product used
Enter 18,340 in the “Total Pounds of Product” column.

Step 2. Calculate the Percentage of Chemical in Product

Section II of the MSDS lists the percentage of each chemical in the product. Often, this is called “Weight Percent.” Find this number and convert it to a decimal (multiply by 0.01), and record the new figure in the “Weight Percent” column in the table. If weight percent is provided in a decimal, simply record that figure in the

“Weight Percent” column. For example, if Chemical “X” in the paint product you bought has a weight percent of 40, multiply 40 by 0.01 to calculate the weight percent.



Example: 40 x .01 = 0.4
Enter 0.4 in the “Weight Percent” column.

continued on next page...

Step 3. Calculate the Total Pounds of Chemical

☐

Multiply the number in the "Weight Percent" column with the quantity in "Total

☒

Pounds of Product" column, and record the total in the "Total Pounds of Chemical" column in the table. Put a check in Column A if you know this

☐

chemical is found in other products. This will help remind you to add up the totals for each chemical from other worksheets. For example, for Chemical "X" you would multiply the weight percent (0.4) by the total pounds of the chemical (18,340) to determine the total pounds of the chemical.

Example: $0.4 \times 18,340 \text{ lbs.} = 7,336 \text{ lbs.}$ emission of chemical constituent
Enter 7,336 in the "Total Pounds of Chemical" column.

Step 4. Calculate the Total Tons of Chemicals You Use per Year

Add the totals in the Total Pounds of Chemical column for **each product**, and divide by 2,000. This number is your total tons per year for all chemicals used in your process materials. Next, add the total pounds of **each chemical** (refer to Column A to identify chemicals found in multiple products) and divide by 2,000.

This number is your total tons per year for each particular chemical. For example, if Chemical "X" is found only in one product (i.e. Column A is not checked), you would divide the total pounds of the chemical (7,336) by 2,000 to determine the total tons of Chemical "X" you use in one year.

Example: $7,336 / 2,000 = 3.67 \text{ tons}$

$$\begin{array}{r} ? \quad 5 \times 7 = ? \\ 20 + 30 = ? \\ + \quad 45 - 26 = ? \\ \hline \end{array} \quad \text{X}$$

Step 5. Calculate Grand Total

Add the Total Pounds/Year figures from each worksheet to determine the total pounds of all chemicals you use. Divide this figure by 2,000 to determine Total Tons/Year. Enter this figure in the "Grand Total Tons of Chemicals" space

below the tables and in the "Total Tons of All Regulated Chemicals Per Year" space on the "**Air Emission Sources Inventory**" worksheet.

When you have estimated your annual use of hazardous air pollutants, check off this action on the Checklist and go on to the next action.

INDIVIDUAL MSDS EMISSIONS TABLES

Product Name _____

Chemical Name	Total Pounds of Product	Weight Percent	Total Pounds of Chemical	Type of Pollutant	Column A
Total Pounds/Yr.					
Total Tons/Yr.					

Product Name _____

Chemical Name	Total Pounds of Product	Weight Percent	Total Pounds of Chemical	Type of Pollutant	Column A
Total Pounds/Yr.					
Total Tons/Yr.					

Product Name _____

Chemical Name	Total Pounds of Product	Weight Percent	Total Pounds of Chemical	Type of Pollutant	Column A
Total Pounds/Yr.					
Total Tons/Yr.					

INDIVIDUAL MSDS EMISSIONS TABLES

Product Name _____

Chemical Name	Total Pounds of Product	Weight Percent	Total Pounds of Chemical	Type of Pollutant	Column A
Total Pounds/Yr.					
Total Tons/Yr.					

Product Name _____

Chemical Name	Total Pounds of Product	Weight Percent	Total Pounds of Chemical	Type of Pollutant	Column A
Total Pounds/Yr.					
Total Tons/Yr.					

Product Name _____

Chemical Name	Total Pounds of Product	Weight Percent	Total Pounds of Chemical	Type of Pollutant	Column A
Total Pounds/Yr.					
Total Tons/Yr.					

Other Types of Emission Sources

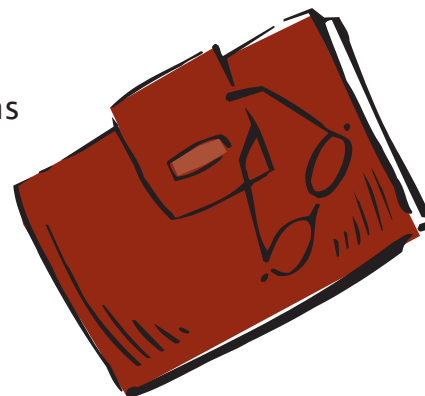
Many air emission sources may not necessarily be readily calculated from an MSDS. You may, at your facility, have such emission sources. For these types of emissions it may be necessary to use “emission factors”. Such factors can be found in an EPA publication known as AP-42.

The combustion of natural gas is a source of emissions.

There are two primary pollutants that come from natural gas combustion: NO_x and carbon monoxide (CO). Below is a calculation of NO_x emissions from the drying oven. The oven is rated at 6 MMBTU/HR heat input. According to AP-42 NO_x is emitted at a rate of 100 lbs./ million standard cubic feet of gas burned.

- 100 lbs. NO_x/10⁶ scf * 1scf/1020 BTU * 6 * 10⁶ BTU/hr = 0.59 lbs. NO_x/hr
- 0.59 lbs. NO_x/hr * 2080 hr/yr = 1227.2 lbs/yr (for potential to emit, multiply by 8760)

Be certain to evaluate all sources of emissions at your facility. Some emissions can be readily calculated from MSDSs, other may require emission factors. MSDSs DO NOT indicate whether or not a particular ingredient is a regulated air pollutant or not. Each state is different.



DETERMINE AIR EMISSION SOURCE STATUS

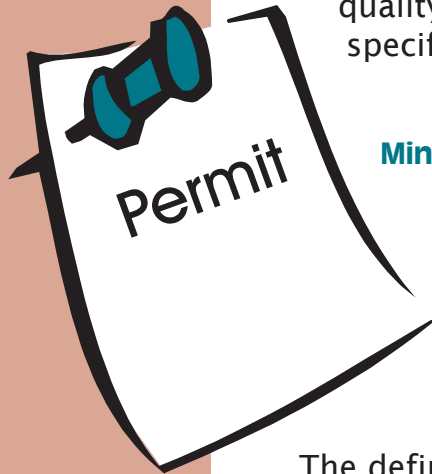
Major Source

Your business is considered a “major source” of air emissions if your processes emit or have the potential to emit: *

- 10 tons (20,000 lbs.) or more of any one chemical on the list of 189 HAPs, or
- 25 tons (50,000 lbs.) or more of any combination of chemicals on the list of 189 HAPs, or
- 100 tons (150,000 lbs.) a year or more of any regulated pollutant

(*Potential to emit means the maximum capacity of a source to emit a pollutant under its physical and operational design. This is usually calculated using operational hours of 8760/year).

continued on next page...



These types of facilities are required to have a Title V (Major Source) permit. You may also be required to have a Title V permit if you are subject to a particular federal air quality standard that specifically requires it (for

example a National Emission Standard for Hazardous Air Pollutant, also known as NESHAP). This would be independent of emission levels. **Please consult DEQ to assist in this determination.**

Minor (Area) Source

“Minor sources” of air emissions are facilities that emit regulated air pollutants below

the threshold levels of major sources but above those facilities defined as de minimis or Permit exempt in the Oklahoma Air Quality Rules.

The definition of de minimis is:

1. Actual emissions of 5 tons/year or less of any regulated pollutant listed in Appendix H of the Oklahoma Air Quality Rules
2. Not a major source
3. Not subject to a federal air quality standard (New Source Performance Standard (NSPS), National Emission Standard for Hazardous Air Pollutants (NESHAP))

The definition of Permit exempt is:

1. Less than 40 TPY of any regulated pollutant
2. Not a major source
3. Not a de minimis facility
4. Not subject to a New Source Performance Standard (NSPS), or National Emission Standard for Hazardous Air Pollutants (NESHAP) work practice, emission, or equipment standard.

NOTE: Permit exempt facilities are subject to additional non-permitting rules that de minimis facilities are not.

Use less toxic cleaners that have low air emissions

Work with your vendor to find less toxic substitutes to your solvent cleaners (surface preparation, parts washers, equipment cleaning). When you begin testing alternatives, follow manufacturer instructions carefully because the new product may need a different working approach than your old cleaning solution required.

Facilities that are above the de minimis levels, but are below the major source definition, will be required to have a minor source permit.

The State of Oklahoma operates a dual permit system: construction and operating permit. If you are constructing a new facility or process you may need a construction permit. If you are already operating and have failed to get a permit, **please call DEQ to determine your status.** In most cases you will only be required to obtain an operating permit, but will be charged a fee for the construction permit you did not obtain.

As is discussed later under “Identify Requirements for Using Hazardous Air Pollutants,” attaining minor

source status or using equipment and process materials that contain non-regulated materials have the fewest requirements. If you find you are a major source and are using regulated chemicals, you will want to reduce your annual usage and find alternative process materials. By achieving these reductions you can enjoy the less burdensome requirements.

Reviewing and implementing best management practices and pollution prevention opportunities can accomplish this.

Following is just one of these opportunities, which can eliminate or reduce the use of regulated chemicals.



When you have determined your air emission source status, check off this action on the Checklist and go on to the next action.

For help determining your air emission source status, call DEQ Customer Services Division at (405) 702 1000 or (800) 869 1400.



The next action item in this workbook explores some of the general requirements associated with your classification as a source of air emissions.

IDENTIFY REQUIREMENTS FOR USING REGULATED CHEMICALS

There are two ways your facility can be regulated for using regulated chemicals in your processes. One is to regulate (usually by a permit or registration process) the entire

facility because of the chemicals it uses; and a second is by regulating specific equipment and processes (i.e. using halogenated solvents in parts washers).

This section points out several of these major regulations that affect industrial sectors. Call DEQ Customer Services Division at (405) 702 1000 or (800) 869 1400 for additional information.



Hazardous Air Pollutants (HAPs)

Major Sources

As a major source of air emissions, your business faces a much more stringent and complicated set of rules. The permit systems and the National Emission Standards for Hazardous Air Pollutants (NESHAP) for industrial sectors and processes, which are

associated with being a major source, are difficult to cover in the context of this informational guide. If you have determined your status is that of a major source, call DEQ Customer Services Division at (405) 702 1000 or (800) 869 1400.

Minor (Area) Sources

Each state and local air quality authority may have rules and standards placed on minor sources. Over the next several years, the EPA is expected to tighten the air quality rules to include non-major sources of air pollution. By understanding

your air emission sources and quantities of regulated chemicals that you use, you will be better able to

understand how you fit into the regulatory framework as rules are developed.

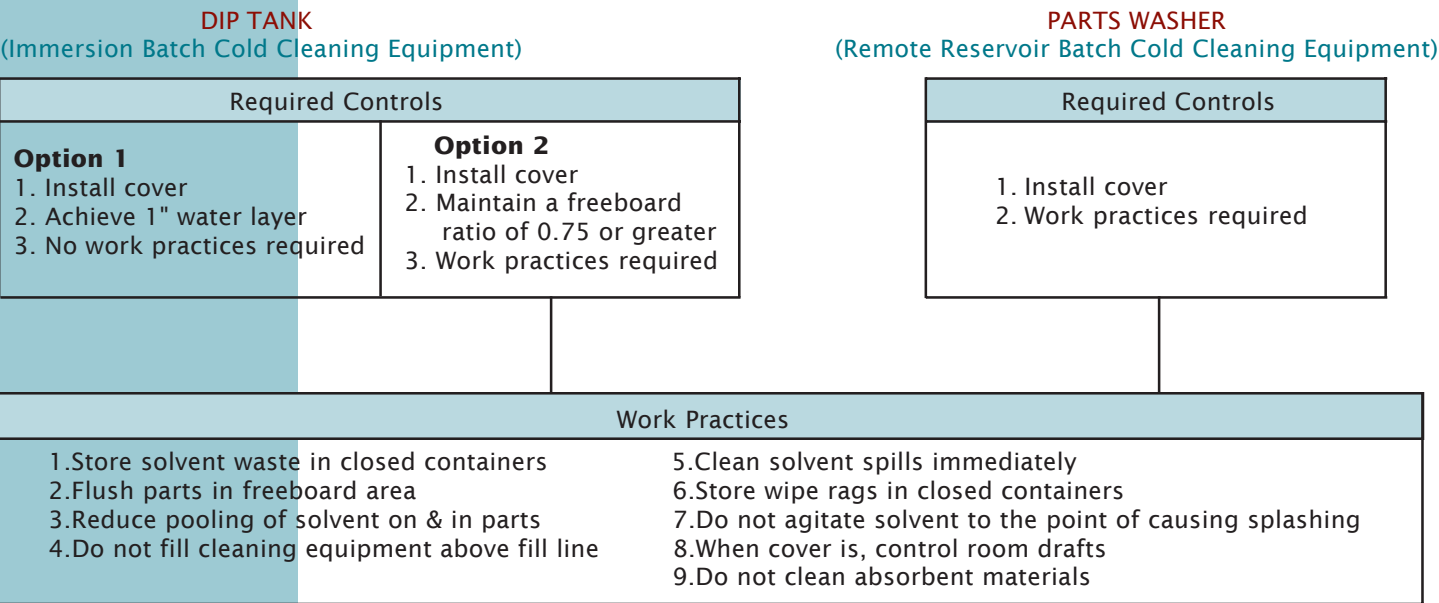


Halogenated Solvent Cleaning

All facilities that operate any size solvent cleaning equipment (solvent immersion or stand-up parts washer) using any of the following solvents — methylene chloride, tetrachloroethylene (also known as perchloroethylene, or “perc”), trichloroethylene, 1,1,1

trichloroethane, carbon tetrachloride (or chloroform) — are affected by the NESHAP Halogenated Solvent Cleaning regulation. If you use these chemicals in solvent cleaning machinery you have several compliance options (see Figure 2 below).

Figure 2: Options for Complying with Cleaning Equipment (NESHAP) Compliance Options



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Section 4: Understanding Water Pollution Sources

4: Understanding Water Pollution Sources

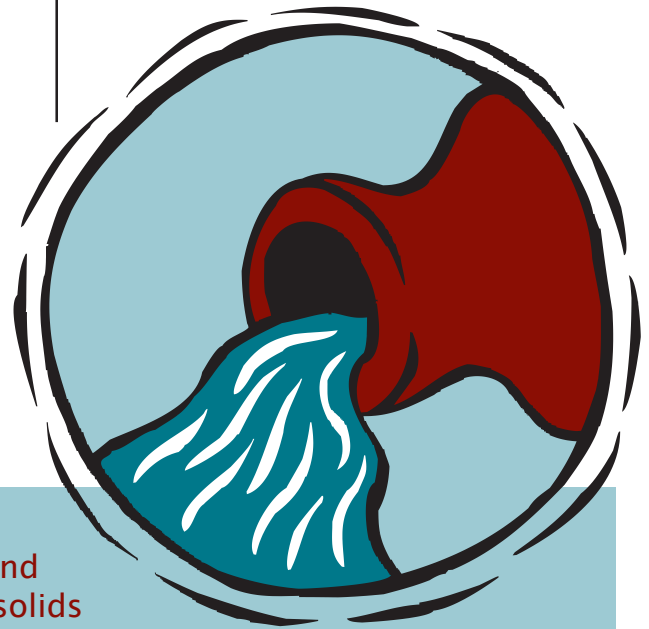
This section of the workbook will help you understand sources of wastewater discharge, storm water discharge, and the requirements for managing these sources.

UNDERSTAND RESPONSIBILITIES AND REQUIREMENTS FOR MANAGING WATER POLLUTION SOURCES

Wastewater

Many industries typically discharge wastewater to a publicly owned treatment works (POTW). It is important for operators to know where the wastewater from their shop is going, and to minimize pollution going “down the drain.” In addition, POTWs are not equipped to treat all types of industrial wastes (e.g., some solvents can pass through a POTW without being removed or

treated). There are three typical sources of water pollution from industrial operations:

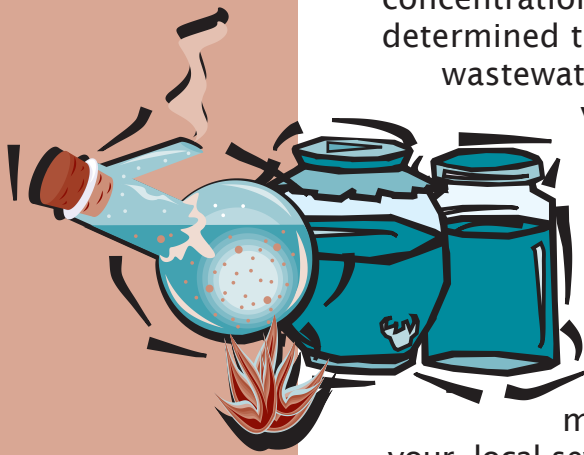


- 1) **Process water discharges** often contain metals, oils and greases, acids, suspended solids and many other contaminants. Discharges should meet local, state or federal discharge limits for these contaminants.
- 2) **Coatings or solvents can be a problem if dumped down the drain.** Do not dump solvents into any drains, regardless of whether they discharge to a sanitary sewer or a septic system, because such disposal is usually prohibited by state and local regulations.
- 3) **Materials discharged to floor drains or storm sewers.** Storm sewers often flow directly into rivers or streams without treatment. Remove any chemicals, oils, or other contaminants before wet rinsing areas that have open floor drains. You can minimize the potential for any unintended releases to the sewer system by putting removable, sealed covers on your floor drains.

Take the following steps to determine whether your water wastes meet sewer discharge limits in your area. For each water pollution source identified on your “[Water Pollution Sources Inventory](#)” worksheet from Section 1, enter

“yes” or “no” in the column “Determined to Meet Sewer Discharge Limits” on the worksheet. If unsure, you may need to have a “water test” done for each water pollution source in question.

Step 1: Determine if wastewater is hazardous — The one fail-safe way to determine if your wastewater is considered hazardous is to have a laboratory test the wastewater. Refer to your local telephone directory to find a laboratory, or **call DEQ Customer Services Division at (405) 702 1000 or (800) 869 1400** for information on certified laboratories. Testing the wastewater before discharge allows you to see which chemicals, and their concentrations, are found in the wastewater. After you have determined the concentrations of certain chemicals in the



wastewater, you can compare those with the limits set by your local sewerage agency (refer to your telephone directory to find out who to call). If the wastewater is determined to meet sewer discharge limits, remember to record “yes” on your “[Water Pollution Sources Inventory](#)” worksheet.

Step 2: Estimate quantity generated — Regardless of the waste quantity you generate, your wastewater must be treated as a hazardous waste if it does not meet your local sewer agency’s discharge limits. In that case, it cannot be discharged to the sewer, storm drains or in any other way that would expose the environment to the wastes.

Step 3: Identify requirements — A permit may be required depending on the area your business location and the discharge limits set at the local level. Consult your local sewerage agency to determine what requirements apply.

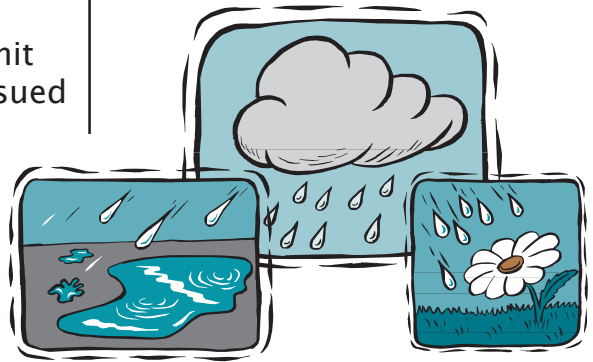
Storm water

In addition to wastewater discharges, industry should be concerned about storm water discharges. You can reduce the potential for storm water contamination at your property by storing raw materials and wastes indoors.

baseline permit was not renewed. The Multi-sector Industrial General Permit issued by the EPA in 1995 replaced coverage for industrial facilities. DEQ began using the EPA Multi-Sector Industrial General Permit issued on September 29, 1995.

Industrial Activities

The baseline general permit for industrial activity was issued on September 9, 1992, for a period of 5 years and expired on September 9, 1997. The



Step 1: Obtain a copy of the Industrial Multi-Sector General Permit (MSGP) GP-00-01 — A state general permit to replace the EPA permit was written and published on October 2, 2000. This permit can be retrieved at <http://www.deq.state.ok.us/water1/stormwater/gp-00-01.pdf> or call DEQ Customer Services Division at (405) 702 1000 or (800) 869 1400.

Step 2: Determine SIC code(s) — A description of Standard Industrial Classification (SIC) codes is available in the SIC Code Manual. This information is also available through the Oklahoma Department of Commerce. Call ODOC at (405) 815 6552.

Step 3: Compare primary SIC code with listing in MSGP Table 1-2 (Sectors of Industrial Activity Covered By this Permit)

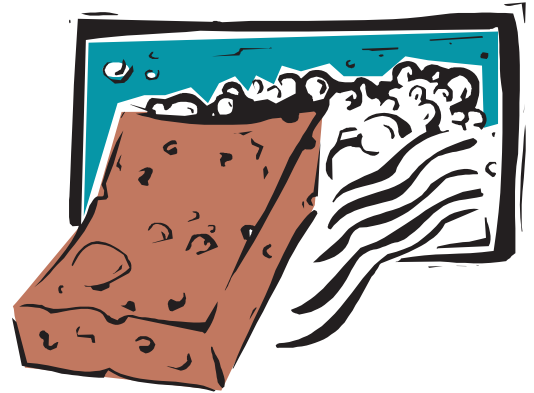
Step 4: Read the relevant section of the MSGP that applies to your sector(s) —

- 1.) If you have co-located industrial activities on-site that are described in a sector(s) other than your primary sector you must comply with all other applicable sector-specific conditions found in the Sector A through AC of Table 1-2. Refer to Section 1.2.2 of the MSGP. continued on next page...

2.) If there is no potential for contaminating storm water on your facility's grounds, then you are not required to obtain a permit— You may be eligible for “**Conditional Exclusion for No Exposure**”. Refer to **Section 1.4.4 of the MSGP**. If you are no longer required to have permit coverage due to a “no exposure” exclusion, you are not required to submit a Notice of Termination. However, you must file a “No Exposure Certification” Form 605-203, Exhibit 4, with the DEQ and resubmit this form every five years.

Step 5: Develop a Storm Water Pollution Prevention Plan (SWP3) — Refer to Part 4 of the MSGP. Every industrial facility is required to prepare a Storm Water Pollution Prevention Plan (SWP3) and maintain a “Best Management Practices” document that outlines good housekeeping practices. Elements of this SWP3 include:

1. Site map with buildings, drives and parking, controls, spills, maintenance areas, storage etc.
2. Pollution prevention team
3. Good housekeeping
4. Preventive maintenance
5. Inspections
6. Spill prevention
7. Team training
8. Monitoring procedure.



The SWP3 is a working document and must be updated to reflect facility changes. The SWP3, site inspection reports

and other related information is to be kept on site for review by DEQ staff as part of a site visit.

Step 6: Submit a Notice of Intent (NOI) — Refer to Part 2 of the MSGP. The application of the industrial storm water permit is generally determined by the SIC number, 10 through 45 plus 5015, 5093 & 5171. Monitoring and reporting of stormwater quality is required of many industries. Every industry under a permit is required to conduct visual monitoring.

On some industrial activities where the storm water comes into contact with the process wastewater activity an “individual permit” can be required. The need for this type permit is determined on a case-by-case basis. There are discharge limits included in

individual OPDES permits. However, you should apply for a storm water permit if there is the possibility that storm water, rainfall, or snow melt water will come in contact with the following:

- Material handling equipment or activities
- Raw materials, intermediate products
- Final products, waste materials
- By products or industrial machinery that have the potential of contaminating storm water



In Oklahoma DEQ handles storm water permitting. Call **DEQ Customer Services Division at (405) 702 1000 or (800) 869- 1400** if you have questions about your responsibilities and requirements for having water pollution sources. Additionally, the cities of Oklahoma City and Tulsa, also issue Storm Water Permits.



Once you understand the responsibilities and requirements for having water pollution sources check off the actions on the Checklist.

Having completed Sections 1-4, you should now understand your hazardous wastes, air emission sources and water pollution sources.

You now have the knowledge to consider eliminating or reducing waste streams by implementing best management practices and pollution prevention opportunities.



Section 5: Emergency Planning & Community Right-to-Know (EPCRA)

5: Emergency Planning & Community Right-to-Know (EPCRA)

This section of the workbook will help you understand Emergency Planning and Community Right-to-Know Act (EPCRA). This will provide a summary of the requirements of the law.

WHAT IS EPCRA?

Congress passed the Emergency Planning & Community Right-To-Know Act (EPCRA) as part of the Superfund Amendments and Reauthorization Act of 1986 (SARA). As a result, EPCRA is also referred to as SARA Title III. The act created a program with two basic goals:

1. To increase public knowledge of and access to information on the presence of toxic chemicals in communities, releases of toxic chemicals into the environment, and waste management activities involving toxic chemicals
2. To encourage and support planning for responding to environmental emergencies.

To fulfill these goals, EPCRA created the Toxics Release Inventory or TRI and the Hazardous Chemical Inventory or Tier II. The information from these programs enables state and local governments and the community to identify what needs to be done at the local level to better deal with pollution and chemical emergencies.



Tier II

Citizens have the right to information about the amounts, location and potential effects of hazardous chemicals present in their communities. Under the hazardous chemical reporting provision of EPCRA, facilities storing hazardous chemicals above specified thresholds must report the chemical type and storage amount to

Local Emergency Planning Committees (LEPCs) and State Emergency Response Commissions (SERCs). The LEPC and SERC must make the Hazardous Chemical Inventory and accidental release information submitted by local facilities available to the public.

SARA Title III Reporting

What Applies to You?

There are four areas of SARA Title III that may apply to you:

Section 302 — Emergency Planning

Section 304 — Emergency Release Notification

Sections 311 & 312 — Community Right-to-Know

Section 313 — Toxic Release Inventory Reporting

Section 302

- ❖ Applies only to facilities that store Extremely Hazardous Substances (EHSs)
 - There are 360 specific EHSs, that list of chemicals is available in Appendix D
- ❖ Applies only to facilities with EHSs above Threshold Planning Quantities (TPQ) see Appendix D (generally 100 - 500 lbs.)
- ❖ TPQ is based upon weight of EHS, that is % in a mixture
- ❖ TPQ must be present over a 24-hour period; not cumulative over the course of a year



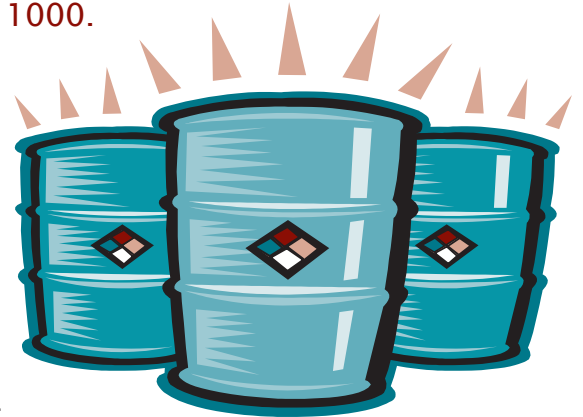
If you meet the above factors, a one-time letter to DEQ stating the presence of EHSs is required (a form letter is available from DEQ). Call (800) 869 1400 or (405) 702 1000.

Section 304

The requirements of this section apply to any facility:

- (i) That produces, uses or stores a hazardous chemical
- (ii) At which there is release of a reportable quantity of any extremely hazardous substance or CERCLA hazardous substance.

Under section 304 of EPCRA, the owner or operator of a facility is required to report immediately to the appropriate State Emergency Response Commissions (SERCs) and Local Emergency Planning Committees (LEPCs) when there is a release of a CERCLA hazardous substance or of an extremely hazardous substance (EHS) at or above the reportable quantity.

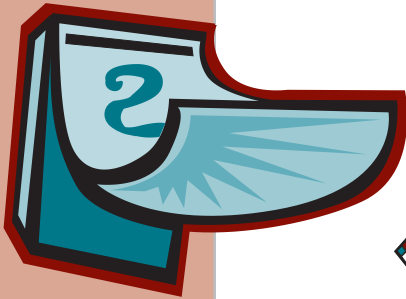


Sections 311 and 312

- ◆ Applies to facilities where any chemical requiring a MSDS (Material Safety Data Sheet) is present, either in use or in storage
- ◆ Applies only if the threshold is exceeded
 - For an EHS, it is equal to the TPQ or 500 lbs., whichever is less
 - For any other chemical with an MSDS, it is equal to 10,000 lbs.
- ◆ Chemical must be on the premises at or above the threshold for any 24-hour period.

Reporting for Sections 311 and 312

- 311- ◆ Submit either MSDS sheets or a chemical list with hazards, with a cover letter for only the chemicals that are above threshold amounts
 - ◆ One-time only submittal
- 312- ◆ Submit a Tier II (Hazardous Chemical Inventory) Report Form for those chemicals exceeding the threshold
 - Tier II Submit reporting software available at <http://yosemite.epa.gov/oswer/ceppoweb.nsf/content/tier2.htm>
 - due every year March 1st
 - report chemicals on-site the previous calendar year
- ◆ Send reports to all of the following:
 - Local Fire Department
 - Local Emergency Planning Committee
 - Department of Environmental Quality on behalf of the SERC



Section 313

- ◆ Applies only if all three conditions are met:
 1. Have ten or more full-time employees (FTE) or the equivalent (20,000 hours/year = FTE)
 2. Belong in a designated group of Standard Industrial Classification (SIC) codes (listed in Appendix D)
 3. Manufactures, imports, processes, or otherwise uses one of the 654 Section 313 chemicals above threshold amounts
 - Call DEQ for the list or visit <http://www.epa.gov/tri/chemical.htm>
- ◆ 25,000 lbs. total for a year manufactured or processed
- ◆ 10,000 lbs. total for a year otherwise used
- ◆ For PBT chemicals — 100 pounds, while for the subset of PBTs chemicals that are highly persistent and highly toxic, it is 10 pounds. One exception is the dioxin and dioxin-like compounds chemical category—the threshold for this category is 0.1 gram.
- ◆ Applies to chemical use over a calendar year, not just at any one time

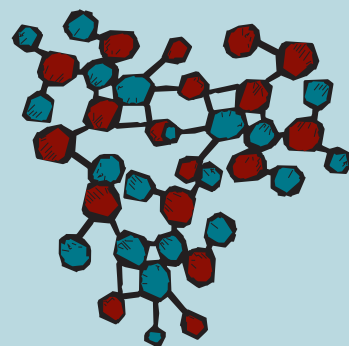
Reporting for Section 313

Submit:

- ◆ Toxic Chemical Release Reporting Form (Form R), due every year on July 1; or
- ◆ Form A Certification Statement for each covered chemical (also due July 1)
- ◆ Send to **both**
 - Department of Environmental Quality
 - US Environmental Protection Agency (EPA) headquarters (TRI Data Processing Center)

What is meant by the terms "manufacture," "process," or "otherwise use"?

- ◆ Manufacture – means to produce, prepare, import, or compound one of the listed EPCRA Section 313 chemicals. Examples include:
 - If you make a dye for clothing by taking raw materials and reacting them, you are manufacturing the dye.
 - If you were a textile manufacturer who imported a dye on the list for purposes of applying it to fabric produced at your plant.
 - If there is coincidental production of an EPCRA section 313 chemical (e.g., as a byproduct or impurity) as a result of the manufacture, processing, otherwise use or disposal of another chemical or mixture of chemicals.
 - If there are chemicals produced as a result of fossil fuel combustion
- ◆ Process – means the incorporation or preparation of an EPCRA Section 313 chemical into a product for further distribution into commerce. This definition includes making mixtures, repackaging, or using a chemical as a feedstock, raw material, or starting material for making another chemical. Examples include:
 - Adding a solvent as a dilutant when making a paint, coating, or other mixture
 - Combining toluene purchased from a supplier with various materials to form paint that is then sold.
- ◆ Otherwise Use – applies to any use of an EPCRA Section 313 chemical at a covered facility that is not covered by the terms "manufacture" or "process." An EPCRA Section 313 chemical that is otherwise used by a facility typically is not intentionally incorporated into a product distributed in commerce. The otherwise use definition also includes EPCRA section 313 chemicals disposed, stabilized, or treated for destruction if the facility that conducted these activities received the EPCRA Section 313 chemical from off-site for purposes of waste management. Examples include:
 - Using a metal cutting fluid that contains diethanolamine
 - Using a heat transfer fluid containing biphenyl
 - Using trichloroethylene or toluene to degrease tools
 - Using chlorine in water treatment
 - Using Freon 113 as a refrigerant to cool process streams
- ◆ Section 313 requires suppliers of mixtures and trade name products to notify customers of the presence of EPCRA section 313 chemicals in their products above de minimis concentrations. This supplier notification requirement has been in effect since January 1, 1989.



What you must report

You must report on the EPA **Form R** the following information for each EPCRA Section 313 chemical manufactured, imported, processed, or otherwise used at your facility in yearly amounts that exceed the threshold:

- ◆ The name and location of your facility
- ◆ The identity of the EPCRA Section 313 chemical (unless you claim its identity to be a trade secret)
- ◆ Activity (whether you manufacture, import, process, or otherwise use) the EPCRA Section 313 chemical
- ◆ The maximum quantity of the EPCRA Section 313 chemical on-site at any time during the year
- ◆ The total quantity of the EPCRA section 313 chemical released during the year. Separate estimates must be provided for: on-site releases to air, water, land and injected underground; and transfers off-site for disposal
- ◆ The total quantity of the EPCRA Section 313 chemical managed as waste during the year. Separate estimates must be provided for on-site treatment, on-site combustion for energy recovery, on-site recycling, transfers off-site for treatment, transfers off-site for combustion for energy recovery and transfers off-site for recycling
- ◆ Off-site locations to which you shipped wastes containing the EPCRA Section 313 chemical and the quantities of that EPCRA section 313 chemical sent to those locations for recycling, energy recovery, treatment, or disposal
- ◆ On-site recycling, energy recovery, or treatment methods used for wastes containing the EPCRA Section 313 chemical and estimates of the treatment efficiency for each EPCRA section 313 chemical
- ◆ Source reduction activities involving the EPCRA section 313 chemical

The **Form A** is based on an alternate threshold for facilities with small quantities of an EPCRA Section 313 chemical released or otherwise managed

as waste. The Form A serves to certify that a facility is not subject to Form R reporting for a specific toxic chemical.

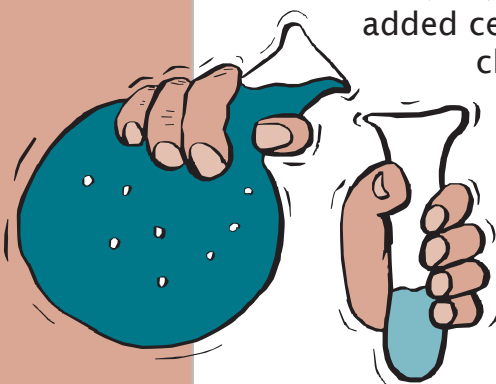
- ◆ **Part I** — Facility Identification Information, which also includes the “certification” regarding the eligibility to use the Form A (page 1)
- ◆ **Part II**— Chemical Identification (page 2).

Since 1998, the Form A may be used to report multiple chemicals. Four chemicals may be reported on page 2 of the form. If more than four chemicals are to be reported, additional copies of page 2 can be used to report qualifying

chemicals. The Form A must have an original certification statement on page 1 and contain an appropriate trade secret designation for the form. A complete report for Form A consists of at least two pages for each submission.

EPCRA section 329(8) defines release as “any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing [on-site or off-site] into the environment (including the abandonment of barrels, containers, and other closed receptacles).”

Persistent, Bioaccumulative & Toxic Chemicals



EPA has published two final rules that lowered the TRI reporting thresholds for certain persistent bioaccumulative toxic (PBT) chemicals and added certain other PBT chemicals to the TRI list of toxic chemicals. These PBT chemicals are of particular concern not only because they are toxic

but also because they remain in the environment for long periods of time, are not readily destroyed, and build up or accumulate in body tissue. Relatively small releases of PBT chemicals can pose human and environmental health threats and consequently releases of these chemicals warrant recognition by communities. The table in Appendix D provides the reporting thresholds for EPCRA Section 313 listed PBT chemicals.

- ◆ You must submit a report for any EPCRA Section 313 chemical, which is listed as a PBT chemical that is manufactured, processed or otherwise used at your facility above the designated threshold for that chemical.

Steps To Compliance

Step 1: SIC Code

Check the SIC code list to determine whether your facility is covered.

Step 2: Employees

Check that you have the equivalent of 10 or more full-time employees (that is, if the total annual hours worked by all employees, including contract employees, is at least 20,000 hours).



Step 3: Chemicals

Check the list of EPCRA section 313 chemicals covered by Section 313 to see if any are manufactured, imported, processed, or otherwise used by your facility. Are any of these chemicals on the PBT list? Your chemical supplier is required to inform you if any of the EPCRA section 313 chemicals are contained in mixtures sold to you. Also, the document Common Synonyms for Section 313 Chemicals can assist you in identifying EPCRA section 313 chemicals.



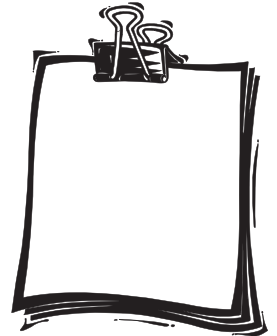
Step 4: Use

Determine whether you manufactured, processed, or

otherwise used any EPCRA Section 313 chemical on the list in an amount greater than the thresholds listed earlier.

Step 5: Forms & Instructions

If you meet the criteria, request copies of the reporting form, instructions, and any of the appropriate guidance documents listed in Appendix E. (**Download TRI-ME Software** <http://www.epa.gov/tri/report/trime/patches.htm#cd>.)



Step 6: Information

Develop the appropriate information to report your releases and other waste management activities. Check for any existing exemptions.

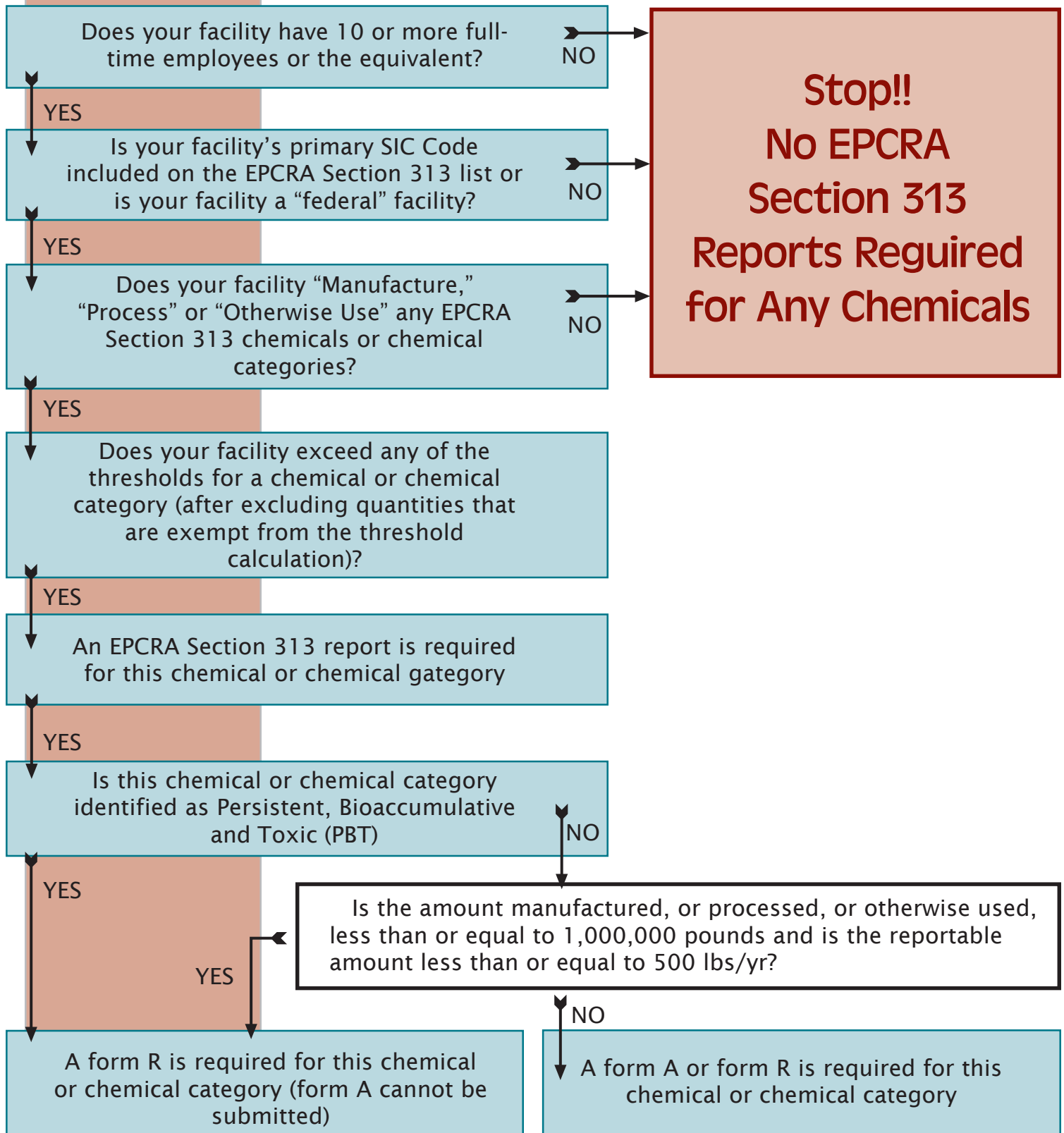
Step 7: Recordkeeping

Maintain a recordkeeping system that will help you make release and other waste management calculations for future years. You should designate someone at your facility to be responsible for reporting under Section 313. That person should obtain reporting forms and instructions and should be aware of the reporting deadline: **July 1 of each year.**

Call DEQ Customer Services Division at (405) 702 1000 or (800) 869 1400 for information on how to obtain the reporting form and instructions. You may also visit the TRI Home Page (<http://www.epa.gov/tri>)



The Emergency Planning & Community Right-to-Know Act (EPCRA) Section 313 Reporting Decision Diagram



Appendices

Appendices

Appendix A

INTERNET RESOURCES:

Enviro\$en\$e (<http://es.epa.gov>)

Enviro\$en\$e is a free, public, integrated environmental information system. It is designed to: assist users in finding and implementing common-sense solutions, such as pollution prevention, to environmental problems; facilitate the sharing of technology, procedures, and experience across federal agencies, other governmental organizations, manufacturers, suppliers, researchers and others; and encourage the development and demonstration of pollution prevention technologies. Enviro\$en\$e can link you to most requests for information on the environment and the pollution prevention opportunities and technologies that would benefit your business.

Pacific Northwest Pollution Prevention Resource Center Web Site (<http://www.pprc.org/pprc>)

Information on this web site will benefit industry representatives, technical assistance providers, researchers, funders of pollution prevention activities and others. For example, industry representatives and technical assistance providers can use it to obtain general information on cutting-edge approaches to environmental problems, and to identify professionals with technical expertise in specific areas.

Office of Air Quality Planning and Standards - Technology Transfer Network (<http://www.epa.gov/ttn>)

This network provides information and technical support on air pollution control. Its four divisions - Air Quality Management, Emission Standards, Technical Support, and Stationary Source Compliance - provide services to EPA regional offices, state and local agencies consultants, industry, and the general public. These services include clearinghouses, conferences, reports, manuals, newsletters, support centers, workshops, classroom training, self-instructional courses and Technology Transfer Network (TTN). The TTN is one of the most useful bulletin boards to find information on Clean Air Act specifics and new rules and regulations that may impact your business. These are the rules that regulators browse through, and you should take advantage of acquiring that same knowledge.

U.S. Environmental Protection Agency (<http://www.epa.gov/>)

This Web site hosts information and contacts for promulgated federal regulations, state and local authorities, available publications, and other resources.

Oklahoma Department of Environmental Quality (<http://www.deq.state.ok.us/external.htm>)

This Web site is a directory of contacts in the different media programs — air quality, water quality, hazardous waste, etc.

EPA Fact Sheets on Regulated Toxic Chemicals (<http://mail.odsnet.com/TRIFacts/>)

This page contains links to EPA fact sheets for every regulated toxic chemical.

Hazardous Chemical Database (<http://ull.chemistry.uakron.edu/erd/>)

This database will allow the user to retrieve information by key-word search for any of 2,000 hazardous chemicals.

Material Safety Data Sheet(s) (<http://www.lib.iastate.edu:80/agnic/msds.html>)

This Web site provides links to many other sites that have MSDS databases and other health and environmental information.

Oxford MSDS Database (<http://physchem.ox.ac.uk:80/MSDS/>)

This Web site's home page is an Index of Material Safety Data Sheets in alphabetical order. The user can select the first letter of the particular chemical for which he or she is searching and then select the appropriate chemical from the list that is presented.

EPA Fact Sheets on Regulated Toxic Chemicals

This page contains links to EPA fact sheets for every regulated toxic chemical.

<http://www.state.nj.us/health/eoh/rtkweb/rtkhsfs.htm>

EPA List Of Lists

This is a consolidated list of chemicals subject to reporting requirements under Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) with references to their reporting status under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund), The Resource Conservation and Recovery Act (RCRA), and Sections 302 and 313 of The Emergency Planning & Community Right-To-Know Act (EPCRA).

<http://www.epa.gov/ceppo/pubs/title3.pdf>

Hazardous Chemical Database

This database will allow the user to retrieve information by key-word search for any of 2,000 hazardous chemicals.

<http://ull.chemistry.uakron.edu/erd/>

Material Safety Data Sheet(s)

This Web site provides links to many other sites that have MSDS databases and other health and environmental information.

<http://www.lib.iastate.edu:80/agnic/msds.html>

Oxford MSDS Database

This Web site's home page is an Index of Material Safety Data Sheets in alphabetical order. The user can select the first letter of the particular chemical for which he or she is searching, and then select the appropriate chemical from the list that is presented.

<http://physchem.ox.ac.uk:80/MSDS/>

Appendix B

WEEKLY FACILITY INSPECTION CHECKLIST

Performing weekly hazardous waste inspections is one of the simplest ways you can protect your facility from a leak or spill, as well as meet new container regulations. If done correctly, your effort will prevent potential releases to the environment before they occur, ensure that wastes are identified properly, and see that wastes are shipped off-site before your accumulation time is up. Make copies of this Checklist for each week in the year and keep them for record.

Inspection for the week of _____ to _____

WEEKLY INSPECTION CHECKLIST

Accumulation

- ☐ Are all drums and containers marked with a hazardous waste label?
- ☐ Are all drums and containers marked with a risk label, if appropriate?
- ☐ Are all drums marked with the accumulation start date?
- ☐ Are there any drums that are near or have exceeded the 90/180 day timeframe?
- ☐ Are all drums marked with the proper waste code(s)?
- ☐ Are all containers closed?
- ☐ Are all drum labels visible and readable?
- ☐ Are all drums and containers in good condition?
- ☐ Is there 30 inches or aisle space between rows of containers?
- ☐ Are any drums leaking?

Sumps

- ☐ Are sumps clean and free of contamination, spills, leaks and standing water?

Safety Equipment

- ☐ Are fire extinguishers charged?
- ☐ Are spill kits stocked?
- ☐ Is the first aid cabinet stocked?
- ☐ Is the emergency shower and eye wash station functioning properly?
- ☐ Are the emergency communication devices operating properly?
- ☐ Is emergency response information posted near all communication devices?
- ☐ Secondary Containment
- ☐ Is the secondary containment free of cracks or other failures?

Comments

Describe the actions that you took to correct the deficiencies noted above, and the date the actions were taken

Printed Name _____

Signature _____

Date _____

Time _____

Appendix C

LIST of HAZARDOUS AIR POLLUTANTS

CAS #	Chemical Name	CAS #	Chemical Name
75070	Acetaldehyde	334883	Diazomethane
60355	Acetamide	132649	Dibenzofurans
75058	Acetonitrile	96128	1,2-Dibromo-3-chloropropane
98862	Acetophenone	84742	Dibutylphthalate
53963	2-Acetylaminofluorene	106467	1,4-Dichlorobenzene(p)
107028	Acrolein	91941	3,3'-Dichlorobenzidine
79061	Acrylamide	111444	Dichloroethyl ether (Bis(2chloroethyl)ether)
79107	Acrylic acid	542756	1,3-Dichloropropene
107131	Acrylonitrile	62737	Dichlorvos
8107051	Allyl chloride	111422	Diethanolamine
92671	4-Aminobiphenyl	121697	N,N-Diethyl aniline (N,N-Dimethylaniline)
62533	Aniline	64675	Diethyl sulfate
90040	o-Anisidine	119904	3,3-Dimethoxybenzidine
1332214	Asbestos	60117	Dimethyl aminoazobenzene
71432	Benzene (including from gasoline)	119937	3,3-Dimethylbenzidine
92875	Benzidine	79447	Dimethyl carbamoyl chloride
98077	Benzotrichloride	68122	Dimethyl formamide
100447	Benzyl chloride	57147	1,1 Dimethylhydrazine
92524	Biphenyl	131113	Dimethyl phthalate
117817	Bis (2-ethylhexyl) phthalate (DEHP)	77781	Dimethyl sulfate
542881	Bis(chloromethyl) ether	534521	4,6-Dinitro-o-cresol, and salts
75252	Bromoform	51285	2,4-Dinitrophenol
106990	1,3-Butadiene	121142	2,4-Dinitrotoluene
156627	Calcium cyanamide	123911	1,4-Dioxane (1,4-Diethyleneoxide)
105602	Caprolactam	122667	1,2-Diphenylhydrazine
133062	Captan	106898	Epichlorohydrin (l-Chloro-2,3-epoxypropane)
63252	Carbaryl	106887	1,2-Epoxybutane
75150	Carbon disulfide	140885	Ethyl acrylate
56235	Carbon tetrachloride	100414	Ethyl benzene
463581	Carbonyl sulfide	51796	Ethyl carbamate (Urethane)
120809	Catechol	75003	Ethyl chloride (Chloroethane)
133904	Chloramben	106934	Ethyl enedibromide (Dibromoethane)
57749	Chlordane	107062	Ethyl enedichloride (1,2-Dichloroethane)
7782505	Chlorine	107211	Ethylene glycol
79118	Chloroacetic acid	151564	Ethyleneimine (Aziridine)
532274	2-Chloroacetophenone	75218	Ethylene oxide
		96457	Ethylene thiourea
108907	Chlorobenzene	75343	Ethylidene dichloride (1,1-Dichloroethane)
510156	Chlorobenzilate	50000	Formaldehyde
67663	Chloroform	76448	Heptachlor
107302	Chloromethyl methyl ether	118741	Hexachlorobenzene
126998	Chloroprene	87683	Hexachlorobutadiene
19773	Cresols/Cresylic acid (isomers and mixture)	77474	Hexachlorocyclopentadiene
95487	o-Cresol	67721	Hexachloroethane
108394	m-Cresol	822060	Hexamethylene-1,6-diisocyanate

CAS #	Chemical Name	CAS #	Chemical Name
94757	2,4-D, salts and esters	302012	Hydrazine
3547044	DDE	7647010	Hydrochloric acid
7664393	Hydrogen fluoride (Hydrofluoric acid)	95807	2,4-Toluene diamine
123319	Hydroquinone	584849	2,4-Toluene diisocyanate
78591	Isophorone	95534	o-Toluidine
58899	Lindane (all isomers)	8001352	Toxaphene (chlorinated camphene)
108316	Maleic anhydride	120821	1,2,4-Trichlorobenzene
67561	Methanol	79005	1,1,2-Trichloroethane
72435	Methoxychlor	79016	Trichloroethylene
74839	Methyl bromide (Bromomethane)	95954	2,4,5-Trichlorophenol
74873	Methyl chloride (Chloromethane)	88062	2,4,6-Trichlorophenol
71556	Methyl chloroform (1,1,1-Trichloroethane)	121448	Triethylamine
78933	Methyl ethyl ketone (2-Butanone)	1582098	Trifluralin
60344	Methyl hydrazine	540841	2,2,4-Trimethylpentane
74884	Methyl iodide (Iodomethane)	108054	Vinyl acetate
108101	Methyl isobutyl ketone (Hexone)	593602	Vinyl bromide
624839	Methyl isocyanate	75014	Vinyl chloride
80626	Methyl methacrylate	75354	Vinylidene chloride (1,1-Dichloroethylene)
1634044	Methyl tert butyl ether	1330207	Xylenes (isomers and mixture)
101144	4,4-Methylene bis (2-chloroaniline)	95476	o-Xylenes
75092	Methylene chloride (Dichloromethane)	108383	m-Xylenes
101688	Methylene diphenyl diisocyanate (MDI)	106423	p-Xylenes
101779	4,4'-Methylenedianiline	0	Antimony compounds
91203	Naphthalene	0	Arsenic compounds (inorganic, including arsine)
98953	Nitrobenzene	0	Beryllium compounds
92933	4-Nitrobiphenyl	0	Cadmium compounds
100027	4-Nitrophenol	0	Chromium compounds
79469	2-Nitropropane	0	Cobalt compounds
684935	N-Nitroso-N-methylurea	0	Coke oven emissions
62759	N-Nitrosodimethylamine	0	Cyanide compounds ¹
59892	N-Nitrosomorpholine	0	Glycol ethers ²
56382	Parathion	0	Lead compounds
82688	Pentachloronitrobenzene (Quintobenzene)	0	Manganese compounds
87865	Pentachlorophenol	0	Mercury compounds
108952	Phenol	0	Mineral fibers ³
106503	p-Phenylenediamine	0	Nickel compounds
75445	Phosgene	0	Polycyclic organic matter ⁴
7803512	Phosphine	0	Radionuclides (including radon) ⁵
106445	p-Cresol	680319	Hexamethylphosphoramide
98828	Cumene	110543	Hexane
7723140	Phosphorus	0	Selenium compounds
85449	Phthalic anhydride	0	—
1336363	Polychlorinated biphenyls (Aroclors)	0	—
1120714	1,3-Propane sultone	0	—
57578	beta-Propiolactone	0	—
123386	Propionaldehyde	0	—

CAS #	Chemical Name	CAS #	Chemical Name
114261	Propoxur (Baygon)	0	—
78875	Propylene dichloride	0	—
	(1,2-Dichloropropane)	0	—
75569	Propylene oxide	0	—
75558	1,2-Propylenimine	0	—
	(2-Methyl aziridine)	0	—
91225	Quinoline	0	—
106514	Quinone	0	—
100425	Styrene	0	—
96093	Styrene oxide	0	—
1746016	2,3,7,8-Tetrachlorodibenzo-p-dioxin	0	—
79345	1,1,2,2-Tetrachloroethane	0	—
127184	Tetrachloroethylene	0	—
	(Perchloroethylene)	0	—
7550450	Titanium tetrachloride	0	—
108883	Toluene	0	—

NOTE:

For all listings above that contain the word “compounds” and for glycol ethers, the following applies: unless otherwise specified, these listings are defined as including any unique chemical substance that contains the named chemical (i.e., antimony, arsenic, etc.) as part of that chemical’s infrastructure.

- 1) X’CN where X=H’ or any other group where a formal dissociation may occur. For example, KCN or Ca(CN)₂
- 2) Includes mono- and di- ethers of ethylene glycol, diethylene glycol, and triethylene glycol R-(OCH₂CH₂)_n-OR’ where n=1, 2, or 3: R=alkyl or aryl groups; R’=R, H, or groups which, when removed, yield glycol ethers with the structure: R-(OCH₂CH)_n-OH. Polymers are excluded from the glycol category.
- 3) Includes glass, rock, or slag fibers (or other mineral derived fibers) of average diameter 1 micrometer or less.
- 4) Includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100°C.
- 5) A type of atom that spontaneously undergoes radioactive decay.

Standard Industrial Classification (SIC) Codes in TRI Reporting

The list of industries subject to reporting under the TRI program is commonly divided into two groups called “Original” —those covered under the original legislation and “New”— those that were added in 1998

<http://www.epa.gov/tri/report/siccode.htm>

Original Industries: Standard Industrial Classification (SIC) Codes 20-39

SIC	Industry Group
20	Food
21	Tobacco
22	Textiles
23	Apparel
24	Lumber and Wood
25	Furniture
26	Paper
27	Printing and Publishing
28	Chemicals
29	Petroleum and Coal
30	Rubber and Plastics
31	Leather
32	Stone, Clay, and Glass
33	Primary Metal
34	Fabricated Metals
35	Machinery (excluding electrical)
36	Electrical and Electronic Equipment
37	Transportation Equipment
38	Instruments
39	Miscellaneous Manufacturing

New Industries Reporting to TRI as of the 1998 Reporting Year

SIC	Industry Group
10	Metal mining (except for SIC codes 1011, 1081, and 1094)
12	Coal mining (except for 1241 and extraction activities)
49	Electrical utilities that combust coal and/or oil (SIC codes 4911, 4931, and 4939)
	Resource Conservation and Recovery Act (RCRA) Subtitle C hazardous waste treatment and disposal facilities (SIC code 4953)
51	Chemicals and allied products wholesale distributors (SIC code 5169)
	Petroleum bulk plants and terminals (SIC code 5171)
73	Solvent recovery services (SIC code 7389)

continued on next page...

Alphabetical Order List of Extremely Hazardous Substances (Section 302 of EPCRA)

CAS Number	NAME	TPQ pounds	EHS_RQ pounds
75865	Acetone cyanohydrin	1,000	10
1752303	Acetone thiosemicarbazide	1,000/10,000	1,000
107028	Acrolein	500	1
79061	Acrylamide	1,000/10,000	5,000
107131	Acrylonitrile	10,000	100
814686	Acrylyl chloride	100	100
111693	Adiponitrile	1,000	1,000
116063	Aldicarb	100/10,000	1
309002	Aldrin	500/10,000	1
107186	Allyl alcohol	1,000	100
107119	Allylamine	500	500
20859738	Aluminum phosphide	500	100
54626	Aminopterin	500/10,000	500
3734972	Amiton oxalate	100/10,000	100
78535	Amiton	500	500
7664417	Ammonia	500	100
300629	Amphetamine	1,000	1,000
62533	Aniline	1,000	5,000
88051	Aniline, 2,4,6-trimethyl-	500	500
7783702	Antimony pentafluoride	500	500
1397940	Antimycin A	1,000/10,000	1,000
86884	Antu	500/10,000	100
1303282	Arsenic pentoxide	100/10,000	1
1327533	Arsenous oxide	100/10,000	1
7784341	Arsenous trichloride	500	1
7784421	Arsine	100	100
2642719	Azinphos-ethyl	100/10,000	100
86500	Azinphos-methyl	10/10,000	1
98873	Benzal chloride	500	5,000
98168	Benzenamine, 3-(trifluoromethyl)-	500	500
100141	Benzene, 1-(chloromethyl)-4-nitro-	500/10,000	500
98055	Benzenearsonic acid	10/10,000	10
3615212	Benzimidazole, 4,5-dichloro-2-(trifluoromethyl)-	500/10,000	500
98077	Benzotrichloride	100	10
100447	Benzyl chloride	500	100
140294	Benzyl cyanide	500	500
57578	beta-Propiolactone	500	10
15271417	Bicyclo[2.2.1]heptane-2-carbonitrile, 5-chloro-6-(((methylamino)carbonyl)oxy)imino)-(1-alpha,2-beta,4-alpha,5-alpha,6E)-	500/10,000	500
534076	Bis(chloromethyl) ketone	10/10,000	10
4044659	Bitoscanate	500/10,000	500
353424	Boron trifluoride compound with methyl ether (1:1)	1,000	1,000
10294345	Boron trichloride	500	500
7637072	Boron trifluoride	500	500
28772567	Bromadiolone	100/10,000	100
7726956	Bromine	500	500
2223930	Cadmium stearate	1,000/10,000	1,000
1306190	Cadmium oxide	100/10,000	100
7778441	Calcium arsenate	500/10,000	1
8001352	Campechlor	500/10,000	1
56257	Cantharidin	100/10,000	100
51832	Carbachol chloride	500/10,000	500
26419738	Carbamic acid, methyl-, O-(((2,4-dimethyl-1,3-dithiolan-2-yl)methylene)amino)-	100/10,000	1
1563662	Carbofuran	10/10,000	10
75150	Carbon disulfide	10,000	100
786196	Carbophenothion	500	500
57749	Chlordane	1,000	1
470906	Chlorfenvinfos	500	500
7782505	Chlorine	100	10
24934916	Chlormephos	500	500
999815	Chlormequat chloride	100/10,000	100

CAS Number	NAME	TPQ pounds	EHS_RQ pounds
79118	Chloroacetic acid	100/10,000	100
107073	Chloroethanol	500	500
627112	Chloroethyl chloroformate	1,000	1,000
67663	Chloroform	10,000	10
107302	Chloromethyl methyl ether	100	10
542881	Chloromethyl ether	100	10
3691358	Chlorophacinone	100/10,000	100
1982474	Chloroxuron	500/10,000	500
21923239	Chlorthiophos	500	500
10025737	Chromic chloride	1/10,000	1
10210681	Cobalt carbonyl	10/10,000	10
62207765	Cobalt, ((2,2'-(1,2-ethanediybis(nitrilomethylidyne))bis(6-fluorophenylato)))(2-)-N,N',O,O')-	100/10,000	100
64868	Colchicine	10/10,000	10
56724	Coumaphos	100/10,000	10
5836293	Coumatetralyl	500/10,000	500
535897	Crimidine	100/10,000	100
4170303	Crotonaldehyde	1,000	100
123739	Crotonaldehyde, (E)-	1,000	100
506683	Cyanogen bromide	500/10,000	1,000
506785	Cyanogen iodide	1,000/10,000	1,000
2636262	Cyanophos	1,000	1,000
675149	Cyanuric fluoride	100	100
66819	Cycloheximide	100/10,000	100
108918	Cyclohexylamine	10,000	10,000
17702419	Decaborane(14)	500/10,000	500
8065483	Demeton	500	500
919868	Demeton-S-methyl	500	500
10311849	Dialifor	100/10,000	100
19287457	Diborane	100	100
111444	Dichloroethyl ether	10,000	10
149746	Dichloromethylphenylsilane	1,000	1,000
62737	Dichlorvos	1,000	10
141662	Dicrotophos	100	100
1464535	Diepoxybutane	500	10
814493	Diethyl chlorophosphate	500	500
71636	Digitoxin	100/10,000	100
2238075	Diglycidyl ether	1,000	1,000
20830755	Digoxin	10/10,000	10
115264	Dimefox	500	500
60515	Dimethoate	500/10,000	10
2524030	Dimethyl phosphorochloridothioate	500	500
77781	Dimethyl sulfate	500	100
99989	Dimethyl-p-phenylenediamine	10/10,000	10
75785	Dimethyldichlorosilane	500	500
57147	Dimethylhydrazine	1,000	10
644644	Dimetilan	500/10,000	1
534521	Dinitrocresol	10/10,000	10
88857	Dinoseb	100/10,000	1,000
1420071	Dinoterb	500/10,000	500
78342	Dioxathion	500	500
82666	Diphacinone	10/10,000	10
152169	Diphosphoramidate, octamethyl-	100	100
298044	Disulfoton	500	1
514738	Dithiazanine iodide	500/10,000	500
541537	Dithiobiuret	100/10,000	100
316427	Emetine, dihydrochloride	1/10,000	1
115297	Endosulfan	10/10,000	1
2778043	Endothion	500/10,000	500
72208	Endrin	500/10,000	1
106898	Epichlorohydrin	1,000	100
2104645	EPN	100/10,000	100
50146	Ergocalciferol	1,000/10,000	1,000
379793	Ergotamine tartrate	500/10,000	500
1622328	Ethanesulfonyl chloride, 2-chloro-	500	500
10140871	Ethanol, 1,2-dichloro-, acetate	1,000	1,000
563122	Ethion	1,000	10
13194484	Ethoprophos	1,000	1,000
538078	Ethylbis(2-chloroethyl)amine	500	500

CAS Number	NAME	TPQ pounds	EHS_RQ pounds
371620	Ethylene fluorohydrin	10	10
75218	Ethylene oxide	1,000	10
107153	Ethylenediamine	10,000	5,000
151564	Ethyleneimine	500	1
542905	Ethylthiocyanate	10,000	10,000
22224926	Fenamiphos	10/10,000	10
115902	Fensulfothion	500	500
4301502	Fluenetil	100/10,000	100
7782414	Fluorine	500	10
640197	Fluoroacetamide	100/10,000	100
144490	Fluoroacetic acid	10/10,000	10
359068	Fluoroacetyl chloride	10	10
51218	Fluorouracil	500/10,000	500
944229	Fonofos	500	500
107164	Formaldehyde cyanohydrin	1,000	1,000
50000	Formaldehyde	500	100
23422539	Formetanate hydrochloride	500/10,000	1
2540821	Formothion	100	100
17702577	Formparanate	100/10,000	1
21548323	Fosthietan	500	500
3878191	Fuberidazole	100/10,000	100
110009	Furan	500	100
13450903	Gallium trichloride	500/10,000	500
77474	Hexachlorocyclopentadiene	100	10
4835114	Hexamethylenediamine, N,N'-dibutyl-	500	500
302012	Hydrazine	1,000	1
74908	Hydrocyanic acid	100	10
7647010	Hydrogen chloride (gas only)	500	5,000
7783075	Hydrogen selenide	10	10
7664393	Hydrogen fluoride	100	100
7722841	Hydrogen peroxide (Conc.> 52%)	1,000	1,000
7783064	Hydrogen sulfide	500	100
123319	Hydroquinone	500/10,000	100
13463406	Iron, pentacarbonyl-	100	100
297789	Isobenzan	100/10,000	100
78820	Isobutyronitrile	1,000	1,000
102363	Isocyanic acid, 3,4-dichlorophenyl ester	500/10,000	500
465736	Isodrin	100/10,000	1
55914	Isofluorphate	100	100
4098719	Isophorone diisocyanate	100	100
108236	Isopropyl chloroformate	1,000	1,000
119380	Isopropylmethylpyrazolyl dimethylcarbamate	500	1
78977	Lactonitrile	1,000	1,000
21609905	Leptophos	500/10,000	500
541253	Lewisite	10	10
58899	Lindane	1,000/10,000	1
7580678	Lithium hydride	100	100
109773	Malononitrile	500/10,000	1,000
12108133	Manganese, tricarbonyl methylcyclopentadienyl	100	100
51752	Mechlorethamine	10	10
950107	Mephosfolan	500	500
1600277	Mercuric acetate	500/10,000	500
21908532	Mercuric oxide	500/10,000	500
7487947	Mercuric chloride	500/10,000	500
10476956	Methacrolein diacetate	1,000	1,000
760930	Methacrylic anhydride	500	500
126987	Methacrylonitrile	500	1,000
920467	Methacryloyl chloride	100	100
30674807	Methacryloyloxyethyl isocyanate	100	100
10265926	Methamidophos	100/10,000	100
558258	Methanesulfonyl fluoride	1,000	1,000
950378	Methidathion	500/10,000	500
2032657	Methiocarb	500/10,000	10
16752775	Methomyl	500/10,000	100
151382	Methoxyethylmercuric acetate	500/10,000	500
78944	Methyl vinyl ketone	10	10
60344	Methyl hydrazine	500	10
556649	Methyl thiocyanate	10,000	10,000
556616	Methyl isothiocyanate	500	500
79221	Methyl chloroformate	500	1,000

CAS Number	NAME	TPQ pounds	EHS_RQ pounds
3735237	Methyl phenkapton	500	500
74931	Methyl mercaptan	500	100
80637	Methyl 2-chloroacrylate	500	500
676971	Methyl phosphonic dichloride	100	100
74839	Methyl bromide	1,000	1,000
624839	Methyl isocyanate	500	10
502396	Methylmercuric dicyanamide	500/10,000	500
75796	Methyltrichlorosilane	500	500
1129415	Metolcarb	100/10,000	1
7786347	Mevinphos	500	10
315184	Mexacarbate	500/10,000	1,000
50077	Mitomycin C	500/10,000	10
6923224	Monocrotophos	10/10,000	10
2763964	Muscimol	500/10,000	1,000
505602	Mustard gas	500	500
13463393	Nickel carbonyl	1	10
65305	Nicotine sulfate	100/10,000	100
54115	Nicotine	100	100
7697372	Nitric acid	1,000	1,000
10102439	Nitric oxide	100	10
98953	Nitrobenzene	10,000	1,000
1122607	Nitrocyclohexane	500	500
10102440	Nitrogen dioxide	100	10
62759	Nitrosodimethylamine	1,000	10
991424	Norbormide	100/10,000	100
95487	o-Cresol	1,000/10,000	100
NONE	Organorhodium Complex (PMN-82-147)	10/10,000	10
630604	Ouabain	100/10,000	100
23135220	Oxamyl	100/10,000	1
78717	Oxetane, 3,3-bis(chloromethyl)-	500	500
2497076	Oxydisulfoton	500	500
10028156	Ozone	100	100
2074502	Paraquat methosulfate	10/10,000	10
1910425	Paraquat dichloride	10/10,000	10
56382	Parathion	100	10
298000	Parathion-methyl	100/10,000	100
12002038	Paris green	500/10,000	1
19624227	Pentaborane	500	500
2570265	Pentadecylamine	100/10,000	100
79210	Peracetic acid	500	500
594423	Perchloromethyl mercaptan	500	100
108952	Phenol	500/10,000	1,000
64006	Phenol, 3-(1-methylethyl)-, methylcarbamate	500/10,000	1
4418660	Phenol, 2,2'-thiobis[4-chloro-6-methyl-	100/10,000	100
58366	Phenoxarsine, 10,10'-oxydi-	500/10,000	500
696286	Phenyl dichloroarsine	500	1
59881	Phenylhydrazine hydrochloride	1,000/10,000	1,000
62384	Phenylmercury acetate	500/10,000	100
2097190	Phenylsilatrane	100/10,000	100
103855	Phenylthiourea	100/10,000	100
298022	Phorate	10	10
4104147	Phosacetim	100/10,000	100
947024	Phosfolan	100/10,000	100
75445	Phosgene	10	10
732116	Phosmet	10/10,000	10
13171216	Phosphamidon	100	100
7803512	Phosphine	500	100
2703131	Phosphonothioic acid, methyl-, O-ethyl O-(4-(methylthio)phenyl) ester	500	500
50782699	Phosphonothioic acid, methyl-, S-(2-(bis(1-methylethyl)amino)ethyl) O-ethyl ester	100	100
2665307	Phosphonothioic acid, methyl-, O-(4-nitrophenyl) O-phenyl ester	500	500
3254635	Phosphoric acid, dimethyl 4-(methylthio) phenyl ester	500	500
2587908	Phosphorothioic acid, O, O-dimethyl-5-(2-(methylthio)ethyl)ester	500	500
10025873	Phosphorus oxychloride	500	1,000
10026138	Phosphorus pentachloride	500	500

CAS Number	NAME	TPQ pounds	EHS_RQ pounds
7719122	Phosphorus trichloride	1,000	1,000
7723140	Phosphorus	100	1
57476	Physostigmine	100/10,000	1
57647	Physostigmine, salicylate (1:1)	100/10,000	1
124878	Picrotoxin	500/10,000	500
110894	Piperidine	1,000	1,000
23505411	Pirimifos-ethyl	1,000	1,000
151508	Potassium cyanide	100	10
10124502	Potassium arsenite	500/10,000	1
506616	Potassium silver cyanide	500	1
2631370	Promecarb	500/10,000	1
106967	Propargyl bromide	10	10
107120	Propionitrile	500	10
542767	Propionitrile, 3-chloro-	1,000	1,000
70699	Propiophenone, 4'-amino	100/10,000	100
109615	Propyl chloroformate	500	500
75569	Propylene oxide	10,000	100
75558	Propyleneimine	10,000	1
2275185	Prothoate	100/10,000	100
129000	Pyrene	1,000/10,000	5,000
504245	Pyridine, 4-amino-	500/10,000	1,000
140761	Pyridine, 2-methyl-5-vinyl-	500	500
1124330	Pyridine, 4-nitro-, 1-oxide	500/10,000	500
53558251	Pyriminil	100/10,000	100
14167181	Salcomine	500/10,000	500
107448	Sarin	10	10
7783008	Selenious acid	1,000/10,000	10
7791233	Selenium oxychloride	500	500
563417	Semicarbazide hydrochloride	1,000/10,000	1,000
3037727	Silane, (4-aminobutyl)diethoxymethyl-	1,000	1,000
13410010	Sodium selenate	100/10,000	100
7784465	Sodium arsenite	500/10,000	1
62748	Sodium fluoroacetate	10/10,000	10
124652	Sodium cacodylate	100/10,000	100
143339	Sodium cyanide (Na(CN))	100	10
7631892	Sodium arsenate	1,000/10,000	1
10102188	Sodium selenite	100/10,000	100
26628228	Sodium azide (Na(N3))	500	1,000
10102202	Sodium tellurite	500/10,000	500
900958	Stannane, acetoxytriphenyl-	500/10,000	500
57249	Strychnine	100/10,000	10
60413	Strychnine, sulfate	100/10,000	10
3689245	Sulfotep	500	100
3569571	Sulfoxide, 3-chloropropyl octyl	500	500
7446119	Sulfur trioxide	100	100
7446095	Sulfur dioxide	500	500
7783600	Sulfur tetrafluoride	100	100
7664939	Sulfuric acid	1,000	1,000
77816	Tabun	10	10
7783804	Tellurium hexafluoride	100	100
107493	Tepp	100	10
13071799	Terbufos	100	100
78002	Tetraethyl lead	100	10
597648	Tetraethyltin	100	100
75741	Tetramethyllead	100	100
509148	Tetranitromethane	500	10
10031591	Thallium sulfate	100/10,000	100
2757188	Thallous malonate	100/10,000	100
6533739	Thallous carbonate	100/10,000	100
7791120	Thallous chloride	100/10,000	100
7446186	Thallous sulfate	100/10,000	100
2231574	Thiocarbazide	1,000/10,000	1,000
39196184	Thiofanox	100/10,000	100
297972	Thionazin	500	100
108985	Thiophenol	500	100
79196	Thiosemicarbazide	100/10,000	100
5344821	Thiourea, (2-chlorophenyl)-	100/10,000	100
614788	Thiourea, (2-methylphenyl)-	500/10,000	500
7550450	Titanium tetrachloride	100	1,000
91087	Toluene-2,6-diisocyanate	100	100

CAS Number	NAME	TPQ pounds	EHS_RQ pounds
584849	Toluene-2,4-diisocyanate	500	100
110576	trans-1,4-Dichlorobutene	500	500
1031476	Triamiphos	500/10,000	500
24017478	Triazofos	500	500
1558254	Trichloro(chloromethyl)silane	100	100
27137855	Trichloro(dichlorophenyl)silane	500	500
76028	Trichloroacetyl chloride	500	500
115219	Trichloroethylsilane	500	500
327980	Trichloronate	500	500
98135	Trichlorophenylsilane	500	500
998301	Triethoxysilane	500	500
75774	Trimethylchlorosilane	1,000	1,000
824113	Trimethylolpropane phosphite	100/10,000	100
1066451	Trimethyltin chloride	500/10,000	500
639587	Triphenyltin chloride	500/10,000	500
555771	Tris(2-chloroethyl)amine	100	100
2001958	Valinomycin	1,000/10,000	1,000
1314621	Vanadium pentoxide	100/10,000	1,000
108054	Vinyl acetate monomer	1,000	5,000
129066	Warfarin sodium	100/10,000	100
81812	Warfarin	500/10,000	100
28347139	Xylylene dichloride	100/10,000	100
1314847	Zinc phosphide	500	100
58270089	Zinc, dichloro(4,4-dimethyl-5-(((methylamino)carbonyl)oxy)imino)pentanenitrile)-, (T-4)-	100/10,000	100

TRI PBT CHEMICAL LIST

There are 16 PBT chemicals and 4 PBT chemical compound categories subject to reporting under the EPCRA section 313. The tables below list the name, identification number and reporting threshold for each.

http://www.epa.gov/tri/chemical/pbt_chem_list.htm

Chemical Categories Category Name	TRI Cat. #	Reporting Threshold (in pounds unless noted otherwise)
Dioxin and dioxin-like compounds (manufacturing; and the processing or otherwise use of dioxin and dioxin-like compounds if the dioxin and dioxin-like compounds are present as contaminants in a chemical and if they were created during the manufacturing of that chemical)	N150	0.1 grams
Lead Compounds Lead and Lead Compounds have special reporting thresholds. Refer to TRI homepage http://www.epa.gov/tri/lawsandregs/lead/tri_pb_rule.htm for guidance.	N420	100
Mercury compounds	N458	10
Polycyclic aromatic compounds (PACs)	N590	100

continued on next page...

Chemicals

Chemical Name	CASRN	Reporting Threshold (in pounds)
Aldrin	309-00-2	100
Benzo(g,h,i)perylene	191-24-2	10
Chlordane	57-74-9	10
Heptachlor	76-44-8	10
Hexachlorobenzene	118-74-1	10
Isodrin	465-73-6	10
Lead	7439-92-1	100
Mercury	7439-97-6	10
Methoxychlor	72-43-5	100
Octachlorostyrene	29082-74-4	10
Pendimethalin	40487-42-1	100
Pentachlorobenzene	608-93-5	10
Polychlorinated biphenyl (PCBs)	1336-36-3	10
Tetrabromobisphenol A	79-94-7	100
Toxaphene	8001-35-2	10
Trifluralin	1582-09-8	100

Appendix E

OTHER FEDERAL AND STATE REGULATIONS

Community Right-to-Know

— Guidance documents

A partial list of guidance documents is listed. A detailed list may be obtained by calling DEQ at (405) 702 1000 or (800) 869 1400. Alternatively, you may call toll-free 1-800-490-9198 to order any of these documents. Or, mail requests to:

U.S. EPA/NSCEP
P.O. Box 42419
Cincinnati, OH 45242-2419
(800) 490 9198
Fax: (513) 489 8695
Internet: <http://www.epa.gov/ncepihom/index.html>

- 40 CFR 372, Toxic Chemical Release Reporting; Community Right-to-Know; Final Rule (February 16, 1988; 53 FR 4500)
- Toxic Chemical Release Inventory Reporting Forms and Instructions, Revised 2000 Version, February 2001(EPA 740/B-01-001)
- Persistent Bioaccumulative Toxic (PBT) Chemicals, Final Rule (October 29, 1999; 64 FR 58666)
- EPCRA Section 313; Toxic Chemical Release Inventory; Data Quality Checks to Prevent Common Reporting Errors on Form R/Form A, August 1998 (EPA 745/R-98-012)
- The Emergency Planning and Community Right-to-Know Act: Section 313 Release and Other Waste Management Reporting Requirements, January 2001(EPA 745/K-01-001)
- Supplier Notification Requirements (EPA 560/4-91-006)
- Trade Secrets Rule and Form (53 FR 28772)
- Common Synonyms for Chemicals Listed Under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPA 745/R-95-008)
- Section 313 of the Emergency Planning and Community Right-to-Know Act; Questions and Answers, December 1998 (EPA 745/B-98-004)
- Section 313 of the Emergency Planning and Community Right-to-Know Act; Questions and Answers Addendum for Federal Facilities, May 2000 (EPA 745/R-00-003)
- Chemicals in Your Community, December 1999 (EPA 550-K-99-001), or <http://www.epa.gov/swercepp/pcons.htm>

Clean Water Act (CWA)

The primary goal of the CWA is to protect, restore, and maintain the chemical, physical and biological integrity of the waters of the United States. One interim goal of the act is to return the nation's water to conditions deemed "fishable and swimmable." All discharges into the waters of the United States, publicly owned treatment works, storm water discharges, and storm sewers are covered under this act. Direct discharge to any surface water requires an Oklahoma Pollutant Discharge Elimination System (OPDES) permit.

Discharge to a publicly owned treatment work (POTW) does not require a OPDES permit, but may require an industrial user permit which is issued by the local water treatment operator. The general pretreatment requirements prohibit the following:

- 1) Pollutants that create a fire hazard in the POTW;
- 2) Pollutants that will cause corrosive damage to the POTW;
- 3) Pollutants (solid or viscous) in amounts that will obstruct flow in the POTW;
- 4) Any pollutant released at a flow rate or concentration that interferes with the POTW operations (this includes oxygen-demanding pollutants);
- 5) Effluents at a temperature that will inhibit biological activity in the POTW;
- 6) Petroleum oils, non-biodegradable cutting fluid, or mineral oil products which will pass through the POTW or interfere with performance of chemicals in the POTW;

- 7) Pollutants that result in toxic fumes within the POTW; and
- 8) Any trucked or hauled pollutants. Facilities are also required to notify the POTW within 24 hours if any violation of the pretreatment requirements occurs.

Some local governments have additional reporting requirements, which should be addressed prior to discharge.

Often, an OPDES permit is required even if no wastewater is produced onsite. If any storm water comes into contact with industrial activity or construction activity, a permit will be necessary. This contact includes any handling equipment or activities, raw materials, intermediate products, final products, or industrial machinery exposed to storm water

that drains to a storm sewer system or directly to receiving waters. Note that a storm water permit is not required for municipal systems that have combined wastewater and storm water systems, but the POTW should be informed that industrial storm water will be entering the sewers.

Occupational Safety and Health Administration Act

Under OSHA, employers (regardless of size) are required to meet several standards that will maintain a safe and healthful workplace. The “general duty clause” of OSHA states that “a place of employment that is free from recognized hazards that are causing or are likely to cause death or serious physical harm” must be provided to the employee. Section 1910.1200 of OSHA is the hazard communication standard and requires employers to inventory, classify, and label all chemical substances onsite

that are considered to be “hazardous” to health or have physical properties which are hazardous. All employers must have a written program available to employees, which includes inspection; inventory; labeling; availability of material safety data sheets; employee training; agency reporting; and record keeping systems. Employers of fewer than 10 people may be exempt from the record-keeping systems only.

Contact the Oklahoma Department of Labor OSHA Consultation Division at (405) 528 1500 Ext. 276 (in Oklahoma City), (918) 581 2400 (in Tulsa), or (888) 269 5353.

Superfund (Comprehensive Environmental Response, Compensation, and Liability Act) (CERCLA) & Superfund Amendments and Reauthorization Act (SARA)

Under the original Superfund, the EPA was authorized to undertake any measures necessary to address any hazard to human health and the environment triggered

by burning, leaking, or explosion of hazardous substances, contamination of food chains, or drinking water contamination.

Toxic Substances Control Act (TSCA)

Under TSCA, the EPA is given the authority to limit or prohibit the manufacture, processing, and distribution of disposal of a chemical substance that they have determined poses a risk to human health or the environment. EPA will also gather information on all risks associated with toxicity to all new and existing chemicals.

Section 4 is the authorization for the EPA to require testing of chemical substances or mixtures they determine could be a risk to human health or the environment. Section 5 grants the EPA the right to test all

new chemical substances to determine their toxicity and subsequent risk 90 days before manufacturing, processing or importing said chemical. Section 6 is the official notification that the EPA may regulate the manufacture, processing, distribution in commerce, and the use and disposal of any chemical substance determined to be toxic. Section 8 is the requirement for all users and manufacturers to keep records and submit reports to the EPA.

(Footnotes)

* Newly-added chemicals

— Note that two new chemicals are being added to the polycyclic aromatic compound family.

- 1) Facilities cannot take the de minimis exemption when determining thresholds for PBT chemicals. However, for supplier notification purposes, the de minimis level applies. Please see the Toxic Chemical Release inventory Reporting Forms & Instructions manual or contact the EPCRA Hotline for more information on Supplier Notification.
- 2) Except for 2,3,7,8-Tetrachlorodibenzo-p-dioxin, which is subject to the 0.1 percent de minimis
- 3) Except for benzo(a)phenanthrene, dibenzo(a)fluoranthene, benzo(j,k)fluorene, and 3-methylcholanthrene which are subject to the 1.0 percent de minimis

The following pages are the Inventory Charts that were referred to on page 14 of this book.

This document was prepared by the Oklahoma Department of Environmental Quality Pollution Prevention Program. The information was adapted from a publication produced by the Pacific Northwest Pollution Prevention Resource Center, 1326 Fifth Ave, Suite 650, Seattle, WA 98101

This information is intended for general reference only; it is not a complete statement of the technical or legal requirements associated with environmental compliance.



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\\Filemaker1web\CMullins\Pollution Prevention\How to Inventory\pmd

Total Pounds of all Regulated Chemicals per Month

Total Pounds of all Regulated Chemicals per Month

[illegible]

Total Pounds of all Regulated Chemicals per Month

[illegible]

[illegible]