

HOW TO IDENTIFY AN EHS FACILITY

(Utilizing information provided by OSFM – Community Right to Know Unit)

Request the Information

1. Obtain a “Hazardous Substance Information Request Form” from Community Right to Know (CR2K) Unit either on line at:
http://www.oregon.gov/OSP/SFM/docs/CR2K/Cr2k_pdfs/Info_Request_Form.pdf or call the hotline number at (503) 378-6835. Complete the required information on the form, requesting:
 - A list of the EHS facilities that are within a given geographical area (City, Fire Department Jurisdiction, County, etc.) including the hazardous substances reported by those facilities
 - Material Safety Data Sheets (MSDS) on EHS as needed

Validate that the facility is an EHS facility

1. Review the list of substances reported by each facility on your list and identify all pure EHS
 - Use EPA “List of Lists” to Identify EHS and their Threshold Planning Quantities (TPQ) (TPQ – Amount on site that triggers planning requirements)
To access this list on line: <http://www.epa.gov/ceppo/pubs/title3.pdf>
2. Using MSDS, identify substances reported that are mixtures. Some mixtures may contain an EHS component
3. How to determine if a substance contains a TPQ of an EHS

Note: This part of the planning process is very technical in nature. Experience reading Material Safety Data Sheets (MSDS) and knowledge of EHS is a prerequisite.

Many hazardous substances are mixtures containing multiple components. Sometimes one or more of these components are EHS. A facility meets the criteria of being an EHS facility if they have a TPQ of a pure EHS or they have a substance on site that is a mixture that contains a TPQ of an EHS. The following Extremely Hazardous Substance Quantity Calculation Worksheet was developed to aid in determining whether or not a mixture contains a TPQ of an EHS. This section will guide you through the calculations necessary to make this determination.

An example of the Extremely Hazardous Substance Quantity Calculation Worksheet

EXTREMELY HAZARDOUS SUBSTANCE QUANTITY CALCULATION WORKSHEET										
Facility ID #	Company Name	Chemical Trade Name	EHS Component	Unit of Measure	Amount Reported	% EHS of Total	Quantity EHS of Total	Conversion Factor	Quantity EHS (in Lbs.)	TPQ (in Lbs.)
					min	x	=	x	=	
					max					
					min					
					max					
					min					
					max					
					min					
					max					
					min					
					max					
					min					
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					min					
					max					
					min					
					max					

Instructions for using the EHS Quantity Calculation Worksheet. You will need an MSDS for the mixture that contains an EHS and for each EHS component. The MSDS for some products are available online or can be requested directly from the manufacturer. MSDS's for some substances are also available through OSFM's website and on the MSDS CD's available with the HSIS program.

1. The Extremely Hazardous Substance Quantity Calculation Worksheet:
 - A. Click on the "Planning Priority Schedules" button on the Hazmat Planning main menu.
 - B. Scroll down until you find the schedule titled "Extremely Hazardous Substance Quantity Calculation Worksheet".
 - C. Print a copy of this worksheet to perform the calculations or enter the information electronically by typing in the appropriate field.
2. In the field labeled "Facility ID #", enter the ID number of the facility that possesses the substance with the EHS component.
3. In the field labeled "Company Name" enter the company or facility name of the facility that possesses the substance with the EHS component.

4. In the field labeled “Chemical Trade Name”, enter the common name or trade name of the mixture or compound that contains the EHS component.
5. In the field labeled “EHS Component”, enter the name of the EHS component contained in the mixture. To determine which component of a mixture is the EHS component, refer to the MSDS of the mixture. There is generally a “Regulatory” section towards the back of the MSDS that may list which components are listed as EHS. Some mixtures may have more than one component that is an EHS. In these cases, complete a separate entry on the worksheet for each EHS component.
6. In the field labeled “Unit of Measure”, enter the unit the mixture is measured in. This will be pounds if the mixture is a solid, gallons if it is a liquid, and cubic feet if it is a gas. If you do not know the physical state of the mixture, it can generally be found in the Physical Characteristics section of the MSDS. The physical state of a substance can also be found by viewing the chemical information provided by the company on the HSIS CD.
7. In the field labeled “ Amount Reported”, enter the minimum and maximum amount of the mixture that is possessed by the facility. This can be found on the facility’s Chemical List Report under the “Range” heading. Enter the lower number of the range in the min box and the upper number of the range in the max box. You will determine whether the facility possesses a quantity of EHS that exceeds the TPQ based on both the minimum and maximum of the range they reported.
8. In the field labeled “% EHS of Total”, enter the percentage of the mixture that is an EHS component. If this is not known, refer to the Chemical Identification section of the MSDS. This section is also referred to as the Composition or Ingredient section and is usually located at the beginning of the MSDS.

Note: The % EHS of Total is a critical piece of information for the completion of this calculation. The calculation cannot be successfully completed without it.

9. Multiply the “Amount Reported”, both min and max, by the “% EHS of Total” and enter the results in the field labeled “Qty EHS of Total”.

$$(Amount\ Reported) \times (\% \ EHS \ of \ Total) = Qty \ EHS \ of \ Total$$

10. Since the TPQ for all EHS is given in pounds, regardless of whether the substance is a solid, liquid, or gas, we will need to convert the “Qty EHS of Total” to pounds in order to make an accurate comparison when considering liquids and gases. If the substance is a solid then it is not necessary to perform the conversion and the “Qty EHS of Total” should be copied to the “Quantity EHS (in lbs)” field. To calculate the conversion factor for a liquid, see step 10A below. To calculate the conversion factor for a gas, see step 10B below. Once the conversion factor is calculated, enter it in the field labeled “Conversion Factor” on the worksheet.

- A. **CONVERTING LIQUIDS TO POUNDS:** The weight of water will be used as a constant because it has a specific gravity (density) of 1.00. Water weighs 8.337 lb/gal. All other liquids can be compared to water to get their lb/gal conversion factor. The conversion factor is calculated by multiplying the specific gravity of the EHS component (found on the MSDS) by the weight of water.

$$(Specific\ Gravity\ of\ EHS) \times (weight\ of\ H_2O) = Conversion\ Factor$$

- B. **CONVERTING GASES TO POUNDS:** The weight of air will be used as a constant because it has a specific gravity (density) of 1.00. Air weighs 0.07493 lb/ft³ at 70 deg. F. All other gases can be compared to air to get their lb/ft³ conversion factor. The conversion factor is found by multiplying the specific gravity of the EHS (found on the MSDS) by the weight of air.

$$(Specific\ Gravity\ of\ EHS) \times (weight\ of\ Air) = Conversion\ Factor$$

11. In the field labeled “Quantity EHS (in Lbs.)”, enter the result of multiplying the conversion factor by “Qty EHS of Total”.

$$(Conversion\ Factor) \times (Qty\ EHS\ of\ Total) = Quantity\ EHS\ (in\ Lbs.)$$

12. In the field labeled “TPQ (in Lbs)”, enter the TPQ for the EHS component. The TPQ for each EHS is found on the EPA list of EHS.

- A. From the HSIS main menu, click on the “Queries and Reports” button.
- B. Click on the “Chemical Info” tab.
- C. Click on the “What is EHS” button.
- D. Click on the “EHS List (EPA)” button.

The EHS List is also available in the Hazardous Substance Information Survey Instruction Booklet and can be accessed from the EPA website at:
http://yosemite.epa.gov/oswer/ceppoehs.nsf/EHS_Profile?openform

13. Compare the TPQ with the Quantity EHS (in Lbs.) to determine whether this substance contains a TPQ of an EHS.

Example A.

An aqueous mixture contains 150 gallons of Sulfuric Acid. How many pounds of sulfuric acid are there? From the physical information section of an MSDS for Sulfuric Acid, the specific gravity for concentrated sulfuric acid is 1.84. Multiply 1.84 times 8.337 (the weight of water in pounds) and you get 15.34 lb/gal, which is the conversion factor for sulfuric acid. 150 gallons of sulfuric acid multiplied by 15.34 lb/gal equals 2301 pounds. The TPQ for sulfuric acid is 1000 lbs so the mixture contains a TPQ.

$$(Specific\ gravity\ of\ EHS) \times (weight\ of\ H_2O) = conversion\ factor$$

$$1.84 \quad \times \quad 8.337\ lb/gal \quad = \quad 15.34\ lb/gal$$

$$(Quantity\ of\ EHS) \times (conversion\ factor) = quantity\ of\ EHS\ in\ pounds$$

$$150\ gal \quad \times \quad 15.34\ lb/gal \quad = \quad 2301\ lbs$$

