





Hazardous Chemical Storage Reporting Requirements

Section 311 - 312



Sections 311-312







- Expand the role of citizens, State and Local governments in emergency planning processes
- Emphasize the importance of emergency response planning and training programs

2

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Sections 311-312





- Contains community right-to-know provisions that grant local emergency response personnel and the public access to information on chemicals present in local facilities.
- Chemical data must be included on SDS under OSHA regulations

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Sections 311-312



Hazardous Chemical Storage Reporting Requirements

- OSHA requires that employers must maintain a SDS for any hazardous chemical stored or used in the workplace. (Hazard Communication Standard)
- Section 311 requires facilities that have SDSs for chemicals above certain quantities to submit either copies of their SDSs or a list of SDS chemicals to the SERC, LEPC, and local fire department
- Section 312 is the required reporting

311 and 312 – Refers to the SAME chemicals

4

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Sections 311-312



In an ideal world...

You have a robust chemical inventory program in which you:

- Know all the purchased materials that are on your site
 - *Know which ones are subject to EPCRA*
- Know all the things you make, and their streams, locations, waste streams, what the contractors bring on site
- Everything is stored electronically
 - *Available instantly, in real time*



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In the real world...



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Thresholds for Covered Facilities

Report if you exceed the following thresholds:

- Extremely Hazardous Substances (EHSs)
 - 500 lbs. or Threshold Planning Quantity (TPQ) – whichever is lower
 - (EHSs are listed in 40 CFR part 355, Appendix A and Appendix B)
 - EPA's List of Lists

Remember! Convert liquids into pounds

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Sections 311-312



Thresholds for Covered Facilities

- Gasoline/Diesel – 75,000/100,000 gallons (at a retail gas station, stored entirely underground, in compliance at all times in previous calendar year with Underground Storage Tanks (UST) requirements. (40 CFR 280)
 - Gasohol (90% gasoline & 10% ethanol) is also included in the term "gasoline" which would also have a reporting threshold of 75,000 gallons.
 - Other fuels, such as M85, E85, E95, #2 fuel oil, kerosene, etc. fall under the 10,000 pound reporting threshold.
- For all other hazardous chemicals: 10,000 pounds 29 CFR 1910.1200

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Exercise

A facility is storing 500 lbs. of sulfuric acid, an EHS on site.
The TPQ for sulfuric acid is 1,000 lbs.?

Do they need to notify the SERC/LEPC under Section 302?

Do they need to file in Section 311 and/or 312?



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Reporting

Option to report by

- Mixture name (product as purchased)
- Chemical component (xylene in paint thinner)

Reporting must be consistent for any year

- For all mixtures and chemicals in a report
- Between 311 (SDS) and 312 (inventory)

EHS require a threshold determination to be based on amount of the chemical throughout the facility

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Sections 311



Reporting Mixtures under Section 311

An owner or operator of the facility can meet Section 311 requirements for mixtures containing hazardous chemicals by doing one of the following:

- Submitting an SDS for, or identifying on a list, each element, or compound in the mixture that is a hazardous chemical.
- If more than one mixture has the same element or compound, only one SDS or one listing of the element or compound is necessary.
- Submitting an SDS for, or identifying on a list, the mixture itself.

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Sections 311



Reporting Mixtures under Section 311

- If a list of hazardous chemicals is submitted, the hazardous chemicals must be grouped by hazard category and must also contain the chemical name or the common name of each chemical as provided on its SDS.
- If a mixture has its own CAS number then it should be listed on the list of hazardous chemicals submitted to SERC and the fire department.
- The option which the owner or operator chooses to report chemicals under Section 311 should be the same option used to report the chemicals on the Section 312 submission.

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Sections 311



Calculating Mixtures under Section 311

- Step 1– Calculate the quantity of each hazardous chemical in the mixture:
 - *[EHS or Non-EHS] % x total weight of the mixture = quantity of hazardous chemical in mixture*
 - *Facilities are not required to count a hazardous chemical in a mixture if the concentration is less than or equal to 1%, or less than or equal to 0.1% if the chemical component is carcinogenic.*

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Sections 311



Calculating Mixtures under Section 311

- Step 2– Since EHSs are chemicals of most concern for emergency planning purposes, information on the exact amount of an EHS present at the facility in pure form and in mixtures is important for planners and responders.
- For an EHS in mixtures and an EHS in pure form:
 - *Add together total quantity of the EHS in both mixtures and in pure form present throughout the facility at any one time.*

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Calculating Mixtures under Section 311

- For a non-EHS in mixtures:
 - *Add together the non-EHS chemical component present in all mixtures and in pure form; or,*
 - *Add together the total amounts of a specific mixture that contains the non-EHS hazardous chemical.*
- If a non-EHS hazardous chemical (Chemical A) is present in pure form only, then only report Chemical A if it is present above 10,000 lbs.

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311 Reporting

- Submit a SDS for each hazardous chemical which meets or exceeds threshold
- A list of SDSs may be submitted instead of actual SDS
 - *Must identify the hazard categories associated with each chemical and include the chemical/ common name*
 - *Ask! Many just want a list (EPA also recommends)*
- If a list of hazardous chemicals is submitted, the facility must submit a copy of the SDS if requested by the LEPC.

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311 Reporting

- 311 Reporting is a one time requirement, unless there are significant changes.
 - *Changes in hazards, quantity.*
- If the owner or operator of the facility finds any significant new information about a hazardous chemical that has already been submitted, the facility is required to submit an updated SDS or revised list of chemicals to the LEPC within 90 days (Section 311(d)).

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A good Inventory is essential

- Know what you have and where
- If you don't need it, dispose of it

Inventories can be difficult to manage

- Limit purchasing power

Have a good relationship with suppliers


- Get updated SDSs from vendors

ASK your LEPC and SERC what they want

- SDSs or just a list?

Review quarterly instead of yearly

- Stay updated



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AARCHER Notes 18

Sections 311-312



Public Access to Information: Sections 311 and 312

- Section 324 of EPCRA requires SERCs and LEPCs to make all SDSs, lists and inventory forms available to the public during normal hours.
- The provisions for public access to information under Sections 311 and 312 are codified in 40 CFR Part 370, Subpart D.

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Sections 311-312



Public Access to Information: Sections 311 and 312

For Section 311, any person may submit a written request to an LEPC to obtain an SDS for a specific facility.

- If the LEPC has the SDS, it must provide it to the person requesting it.
- If the LEPC does not have the SDS (or because a facility submitted only the list of chemicals), it must request the SDS from the facility's owner or operator.
 - *The facility would then have 30 days to submit the SDS.*

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Sections 311-312



Public Access to Information: Sections 311 and 312

- For section 312, any person may submit a written request to the SERC or the LEPC to obtain Tier II inventory form for a specific facility.
- If the SERC or the LEPC has the Tier II information, the SERC or the LEPC must provide it to the person requesting it.

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Sections 311-312



Public Access to Information: Sections 311 and 312

- If the SERC or the LEPC does not have the Tier II, it must request it from the facility owner or operator, if:
 - *The person making the request is a state or local official acting in his or her official capacity; or*
 - *The request is for a hazardous chemical in an amount greater than 10,000 pounds stored at the facility at any time during the previous calendar year.*
- The SERC and the LEPC must respond to a request for Tier II information within 45 days of receiving such a request.

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Sections 311-312



Public Access to Information: Sections 311 and 312

- If requested by the facility, SERCs and LEPCs may withhold the location information of hazardous chemicals at the facility.
- For the location information to be protected from the public, facilities must submit the Confidential Location Information Sheet, along with their Tier II form, to the SERCs, and LEPCs.

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Sections 311-312




What next....EPCRA 312

If you submit under 311, then must submit an annual inventory report for the same chemicals under EPCRA Section 312.

- must be submitted to the SERC, LEPC and local fire department by March 1 of each year.



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Reporting

Section 312: Tier II Inventory Reporting




Reporting

Form

- Facility Identification
- Owner Operator
- Emergency Contact
 - For emergency responders to call if they have questions
 - 24/7 contact is mandatory
- Identical information
 - Did anything change from last year?



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Update to Reporting

Physical and Health Hazards (to be effective January 1st, 2018)


Physical Hazard	Health Hazard
Flammable (gases, aerosols, liquids, or solids)	Carcinogenicity
Gas under pressure	Acute toxicity (any route of exposure)
Explosive	Reproductive toxicity
Self-heating	Skin Corrosion or Irritation
Pyrophoric (liquid or solid)	Respiratory or Skin Sensitization
Pyrophoric Gas	Serious eye damage or eye irritation
Oxidizer (liquid, solid or gas)	Specific target organ toxicity (single or repeated exposure)
Organic peroxide	Aspiration Hazard
Self-reactive	Germ cell mutagenicity
In contact with water emits flammable gas	Simple Asphyxiant
Combustible Dust	Hazard Not Otherwise Classified (HNOC)
Hazard Not Otherwise Classified (HNOC)	
Corrosive to metal	

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Reference





Physical and Health Hazards Cross-Walk for EPCRA Tier II Reporting



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Reporting





Amounts

Mixtures


- Either report weight of entire mixture, or portion that is hazardous
- EHS have lower thresholds
- Be consistent with 311 reporting!


Where do you put chemicals that sit in multiple categories?

- Add the chemical's weight to your totals for all three hazard categories and include its location in all three categories.

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Maximum Amount

- The peak weights--greatest single-day weights during the year--are added together in this column to determine the maximum weight for each hazard type.
- Since the peaks for different chemicals often occur on different days, this maximum amount will seem artificially high.
- Use the Tier II form as a worksheet.

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Weight Range in pounds

Code	From...	To
01	0	99
02	100	499
03	500	999
04	1,000	4,999
05	5,000	9,999
06	10,000	24,999
07	25,000	49,999
08	50,000	74,999
09	75,000	99,999
10	100,000	499,999
11	500,000	999,999
12	1,000,000	9,999,999
13	10,000,000 and above	

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Average Daily Amount

- List all of reportable hazardous chemicals individually and then for each chemical:
 - *Indicate all physical and health hazards*
 - *Estimate the average weight in pounds that was present throughout the year, and divide by the # of days the chemical was present*
- For each hazard type
 - *Add average weights of all chemicals you indicated for the each hazard type*
- Use the appropriate range value code

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Thresholds for Reaction Intermediates

A facility makes a specialty chemical by first producing one chemical (a reaction intermediate) and then injecting chlorine into the vessel as a catalyst for the final product.

- 3-4 batches per year
- More than 10,000 lbs. of the reaction intermediate is present on days the batches are run for 4 hours or more
- A SDS is required for the intermediate

Since the substance is not on site for 24 hours, must it be reported on Tier II?

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Thresholds for Reaction Intermediates

- The facility is required to prepare and have a SDS for the reaction intermediate
- The substance is present at the facility above the threshold planning quantity (10,000 lbs.) at any one time during the year

Therefore, since the reaction intermediate is present at the facility over 10,000 lbs. at one time, the substance is reportable under Section 312.

- If known, indicate what days the intermediate will be present to simplify planning

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Reporting



Trade Secret

A company in Louisiana filed their Section 311/312 reports; however, the State also requires that each unique substance present at the facility be reported.

- For example, if chemical A + chemical B = mixture C, then chemical A, chemical B, and mixture C, must each be reported
- They have no problem reporting the chemicals because competitors wouldn't figure out their mixture ratios
- However, Louisiana requires reporting on mixture C and its components (i.e., chemicals A and B), but the facility does not want to reveal specific ingredients and ratios

How does this facility file a trade secret claim?

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Trade Secret

A. Federal requirements for Section 311/312 state that a facility may report on the mixture as a whole or may report on the hazardous components. It does not require that a facility do both. Therefore, since the mixture and components are not required to be reported, there is no reason for the facility to file a trade secret claim with the Federal EPA. However, the State of Louisiana is requiring information above and beyond the Federal requirements. Therefore, in order for the facility to protect its trade secret mixture formulation, the company must file trade secret claim in accordance with the Louisiana State trade secret provisions (53 FR 28795).

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Reporting



Trade Secret

- Federal regulation states that a facility may report the mixture as a whole or the hazardous components. It does not require both.
 - *Therefore, the facility does NOT need to file a trade secret claim with the Federal EPA*
- However, the State can require information above and beyond Federal requirements; therefore, they must file trade secret claim in accordance with Louisiana State regulations

TRADE SECRETS

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Thresholds in Mixtures

- If EHSs are components of a mixture, the quantity of the EHS in each mixture must be calculated to determine if the threshold value has been reached
- Must include the quantity present in the mixture even if you are also reporting the quantity of that mixture
- Reporting may be accomplished by reporting on the component or the mixture even if the amount of the mixture(s) is below the reporting threshold

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Mixture Reporting

A facility has hydrofluoric acid which is a mixture of hydrogen fluoride and water. The MSDS specifies that the mixture is 50% hydrogen fluoride and 50% water.

- Should the facility report on the hydrofluoric acid mixture or the 50% hydrogen fluoride?

39

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Reporting



Mixture Reporting

Hydrogen fluoride

- Listed as the EHS, TPQ = 100 pounds

Hydrofluoric acid

- SDS states that it is a mixture of 50% hydrogen fluoride and 50% water
- The facility need only report the 50% hydrogen fluoride if the 100-lb TPQ is exceeded

If >100 lbs. of hydrogen fluoride is present, may report hydrogen fluoride by itself (i.e., 100 lbs. hydrogen fluoride) or total weight of the mixture (i.e., 200 lbs. hydrofluoric acid).

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Common Reportable Substances

- Diesel Fuel, Heating oil: More than ~1,350 gallons
- Ammonia: A walk-in cooler or refrigeration system with more than 500 pounds
- Nitric acid: 500 pounds
- Hydrofluoric acid (hydrogen fluoride): 100 pounds
- Propane: A total of 10,000 pounds (2,500 gallons)
- Industrial batteries: 500 pounds sulfuric acid or 10,000 pounds lead
 - *Battery composition determined by battery brand and weight (automobile batteries are exempt)*

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Reporting



What if I don't have a SDS?

- A facility has two components that are blended into a mixture for on-site use
- The mixture is not distributed to commerce; therefore, the facility claims that OSHA does not require a SDS for the mixture
- They use the SDSs for the two components instead
- When the facility submitted its list, they reported the mixture not the components

If the LEPC requests the SDS for the mixture, are they required to develop one? Or, can they submit SDSs for the components, since OSHA does not require a new SDS?

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Reporting



What if I don't have a SDS?

- May report on hazardous components or the mixture as a whole
- If the mixture is reported, an SDS must be available for that mixture, even if OSHA doesn't require
- The inventory form must provide "the chemical name or the common name of the chemical as provided on the SDS"
- If no SDS exists, facility should report the hazardous components



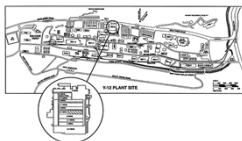
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Reporting



General Location

- Enter the general location where each hazard may be found
- Should include the names or identifications of buildings, tank fields, lots, sheds, etc.
- For each hazard type, list the locations of all applicable chemicals
- You may alternatively include a site plan and key



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Reporting



Tier II Form

OSHA Form No. 306-001-01 (Rev. 10/1/01) Page 40

Chemical Description	Physical Hazards	Health Hazards	Reactivity	Type of Storage	Quantity (Pounds, Kilograms, etc.)	Storage Location	Additional Information (if available)
<input type="checkbox"/> Check if information refers to a mixture of chemicals Chemical Name: _____ CAS No. _____ MSDS No. _____ <input type="checkbox"/> Date: _____ <input type="checkbox"/> Title: _____	<input type="checkbox"/> Explosive <input type="checkbox"/> Flammable (liquids, gases, solids, or dusts) <input type="checkbox"/> Corrosive <input type="checkbox"/> Irritant <input type="checkbox"/> Other: _____	<input type="checkbox"/> Acute toxicity (oral, dermal, or inhalation) <input type="checkbox"/> Skin corrosion or irritation <input type="checkbox"/> Serious eye damage or irritation <input type="checkbox"/> Respiratory or skin sensitization <input type="checkbox"/> Harmful to aquatic life <input type="checkbox"/> Other: _____	<input type="checkbox"/> Reacts with water <input type="checkbox"/> Reacts with acids <input type="checkbox"/> Reacts with bases <input type="checkbox"/> Reacts with oxidizers <input type="checkbox"/> Reacts with reducers <input type="checkbox"/> Reacts with other: _____	<input type="checkbox"/> Bulk <input type="checkbox"/> Intermediate bulk container (IBC) <input type="checkbox"/> Portable tank <input type="checkbox"/> Other: _____	<input type="checkbox"/> Less than 100 lbs. <input type="checkbox"/> 100 lbs. to 1,000 lbs. <input type="checkbox"/> More than 1,000 lbs.	<input type="checkbox"/> Building <input type="checkbox"/> Tank <input type="checkbox"/> Other: _____	<input type="checkbox"/> Other: _____
<input type="checkbox"/> Check if information refers to a mixture of chemicals Chemical Name: _____ CAS No. _____ MSDS No. _____ <input type="checkbox"/> Date: _____ <input type="checkbox"/> Title: _____	<input type="checkbox"/> Explosive <input type="checkbox"/> Flammable (liquids, gases, solids, or dusts) <input type="checkbox"/> Corrosive <input type="checkbox"/> Irritant <input type="checkbox"/> Other: _____	<input type="checkbox"/> Acute toxicity (oral, dermal, or inhalation) <input type="checkbox"/> Skin corrosion or irritation <input type="checkbox"/> Serious eye damage or irritation <input type="checkbox"/> Respiratory or skin sensitization <input type="checkbox"/> Harmful to aquatic life <input type="checkbox"/> Other: _____	<input type="checkbox"/> Reacts with water <input type="checkbox"/> Reacts with acids <input type="checkbox"/> Reacts with bases <input type="checkbox"/> Reacts with oxidizers <input type="checkbox"/> Reacts with reducers <input type="checkbox"/> Reacts with other: _____	<input type="checkbox"/> Bulk <input type="checkbox"/> Intermediate bulk container (IBC) <input type="checkbox"/> Portable tank <input type="checkbox"/> Other: _____	<input type="checkbox"/> Less than 100 lbs. <input type="checkbox"/> 100 lbs. to 1,000 lbs. <input type="checkbox"/> More than 1,000 lbs.	<input type="checkbox"/> Building <input type="checkbox"/> Tank <input type="checkbox"/> Other: _____	<input type="checkbox"/> Other: _____

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Chemical Tracking and Reporting



State Reporting Systems (as of January 9, 2019)

- EPA's Tier II Submit: AL*, AR, CT, HI, ID, KY, ME, NH, NM, OH, OK, PR, RI, TX, UT, VT, VA, WV
- Tier II Manager: DC, DE, IL, IN, MA, MI, MN
- E-Plan (UT-Dallas): AL*, FL, GA, MS, MT, NY, NC, SC, TN
- State Specific System: AK, AZ, CA, CO, IA, KS, LA, MD, MO, NE, NV, NJ, ND, OR, PA, SD, VI, WA, WI, WY

* AL accepts either submission

<https://www.epa.gov/epcra/state-tier-ii-reporting-requirements-and-procedures>

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Reporting



Common Exemptions

- FDA-regulated foods, additives, drugs, cosmetics
- Substance present in a solid form as part of a manufactured item
- Any substance packaged for use by the general public, used personally or within household, used in routine agricultural operations, or used under supervision, in a research laboratory or hospital
- Certain wood/wood products
- Hazardous waste
- Certain fuel at retail gas stations
- State and Local government facilities may be exempt

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Reporting




Minimum Documentation for Each 312 Reported Chemical

- Threshold determination calculations & data sources for hazardous chemicals & EHSs
- Exemptions
- Assumptions
- Copies of reports submitted, & revisions
 - *Save Cover letters*
 - *Do a print screen of the submission!!!*
- Return receipts or acknowledgement from SERC, LEPC, & fire department with jurisdiction over the facility
- Per DoD guidance: maintain documentation for at least 5 years

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Reporting




Documentation

- If you don't have a record, how can EPA audit you?
- Have an SOP on how you derive your values
- E.g., Sunoco was cited for not having copies of cover letters or signed reports
 - Screen shots of electronic submission
 - Save return receipts
- If your site gets sold, work out who will submit forms
 - Can share responsibility for submitting report

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Reporting



Fees

- Vary by State, municipality, city
 - State-\$10/chemical
 - City/County-\$75/chemical
- Some charge more for EHSs
- Some change fee structure by Pure vs. Mixture

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Reporting

Strategy – Look at how you report

- You have a mythical product that contains EHSs
 - 10% Chlorine (TPQ – 100 lbs.)
 - 1% nickel carbonyl (TPQ – 1lb)
- If you do an ingredient report, can report these materials individually
- If you report these as a mixture, then you may overestimate fees

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Reporting



EPCRA Compliance Requires

- Recognize that for ALL chemicals on site, must calculate quantities
- Determine if criteria are met, then submit reports to EACH organization
- Keep the records handy
 - *Especially when no report is required*
- Realize that data is available to everyone:
 - *Emergency responders*
 - *Regulators*
 - *Neighbors*
 - *Competitors*



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Questions/Discussion