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- Most of you will see a Q&A/Polls panel on the right side of your screen. You can just participate in the Polls and Q&A there.
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February-March 2021

Your Unique Slido Meeting Info

- Your Tech Team will add your unique slido meeting info on this page with QR Code and slido.com/meeting ID
- > This info is helpful for those that choose to use their smartphone or browser for Q&A/Polls



Post Session Zoom Rooms Reminder (Most Sessions)



- After our Session is over, we are offering a NEW Zoom Room opportunity for you to continue the conversation started in this Session
- Near the end of the Session in the Q&A box, we will post the Zoom Room link
- To access the Zoom Room link, you can also click on the link below Home on the left menu
- In this Zoom Room, you may meet with the Speaker, Moderator and/or fellow Attendees for a 'post meeting de-brief'



Session Evaluation Codes Reminder



- > After our Session is over, if you want to earn CEUs or offer feedback, please click on the Session Evaluation link at the top of the Session Screen before "Leaving the Session"
- > To complete the evaluation later, come back to the "Session Evaluation Links" menu item, find your session and click on the link to complete the Session Evaluation
 23rd Annual California CUPA Training Conference

February-March 2021





HMBP 201: Beyond the Basics

Presented by

Apollonia Helm and Erin Thomas 3/18/2021

23Rd Annual California CUPA Training Conference February 2 thru March 18, 2021 Virtual Conference



www.calcupa.org



https://youtu.be/FTCfVshsjEM







Why are you here?

Regulators

- Knowledge

 Role of Educator
- Build rapport with facilities
- Improve data: Planning & safety

Businesses

- Understand → Clear guidance
- Improve submissions
- Reduce re-submissions



Introductions

> Erin Thomas:

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 - San Mateo County Env. Health CUPA
 - ahelm@smcgov.org
 - · (650) 207-9133



Poll Question #1

How many years of experience do you have with the hazardous materials business plan program?

A.None

B. 1-5 years

C.5+ years



Poll Question #2

What is your background?

- A. CUPA
- **B.Other Regulator**
- C.Fire agency
- **D.Consultant**
- E.Private industry
- F. Utility
- G.Other



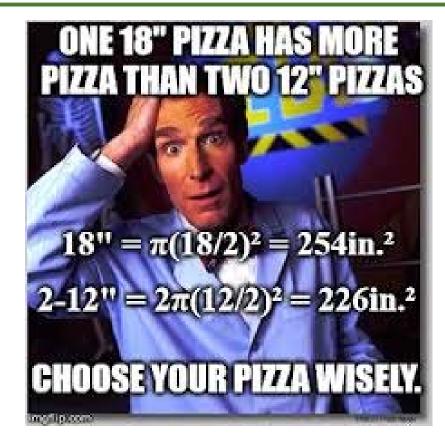
Agenda

- Exemptions & Higher thresholds
- Mixtures
- Updates
- Not talking about...



Housekeeping

- > Get your pen and paper!
- > Slides are available.



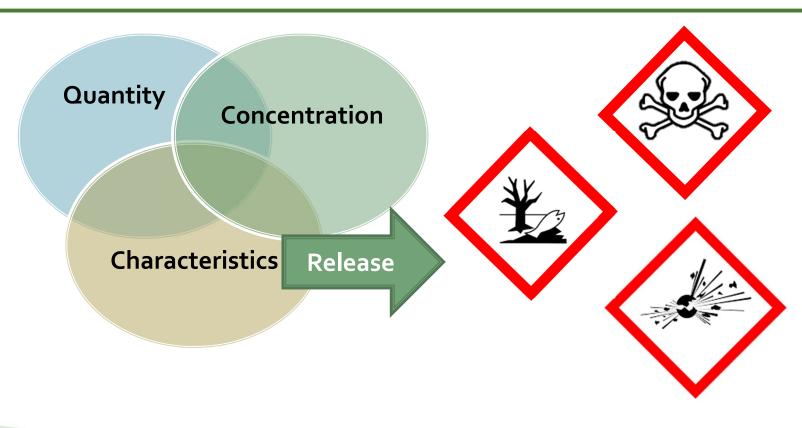


Reminder – Check the local ordinance!

- > Based on our experience, HSC, and CUPA policies. Read the code/reg. and decide.
- > Local jurisdiction ordinances
- > HMBP TAG Items needing clarification
 - Contact Fred Chun and Darwin Cheng
 - Please use the <u>discussion center</u> to ask your questions.



Definition of Hazardous Material





Listed in Paragraph 2 (HSC 25501(n)(1))

- > (2) Hazardous materials include all of the following:
 - A. MSDS is required by CLC.
 - B. Radioactive material listed by NRC (ER plan)
 - C. Hazardous materials table by DOT
 - D. List of hazardous substances in the CLC
 - E. Listed as a hazardous waste in HSC



List of Substances Requiring an SDS

- \rightarrow (A) Items requiring an SDS (Labor Code 6382 (b)(1-5) and (d)).
- Human / animal carcinogen listed by IARC.
- 2. Toxic Pollutants (CWA) & Hazardous Air pollutants (CAA) by EPA.
- 3. Airborne chemical contaminants list by OSHA.
- 4. Restricted Materials listed by Food and Ag.
- 5. Alerts by Hazard Evaluation & Information Services.
- d. Substances in the scope of the Hazard Communication Standard



Exemptions & Higher thresholds

Examples using 4 facilities

- Big Box store
- > Farm
- Utility Site
- Fire Department



Poll Question #3

How Familiar are you with HMBP exemptions / higher thresholds?

- A. I know all of them
- в. I know some of them
- c. I am not familiar with any
- D. A quick review is all I need





LARGE RETAIL STORES

They Have it All



Poll #4 Big Box Activity – What is not exempt? (Word Cloud)

Not Exempt



Poll #5 Big Box Activity – Word Cloud

Exempt

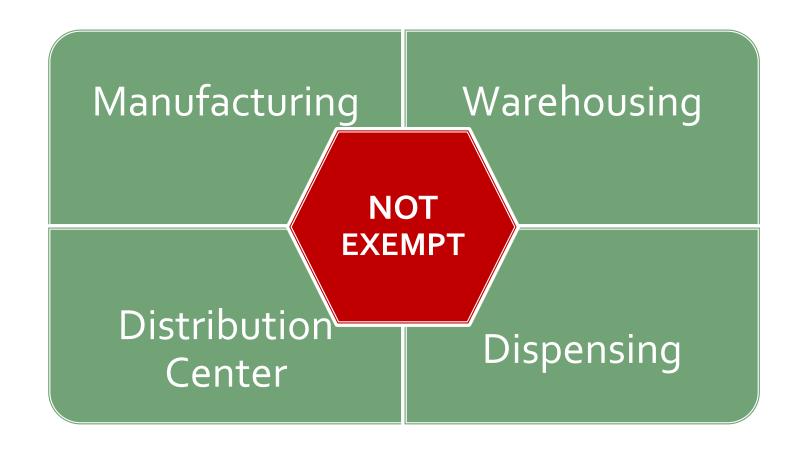


What is Retail?

- Facility sells consumer products
- > For personal, family or household use
- Concentration + quantity for general public







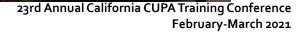


Hazardous Waste

- > In San Mateo Standard reporting thresholds.
- Other Places any hazardous waste amount may be required to be reported.
- Universal Waste: Fluorescent bulbs, batteries, electronics, non empty aerosol cans
- > Medical Waste









Paint Department

Is "waste" paint required to be reported if stored over 55 gallons?





When managed through PaintCare program, report if:

- > 10,000+ lbs solid
- > 1,000+ gal liquid



What about flammable gases?





Gas Cylinders





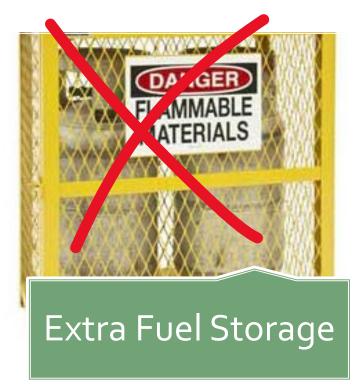
https://youtu.be/YjgtRcCTKIY

Warehouse- Propane

Is Propane Exempt?



Forklift Fuel





Threshold & Reporting Units: Propane

- 1. What is it used for?
- 2. What is the threshold?
- 3. Delivered in pounds?
- 4. Physical state on site?
- 5. Reporting units?

- > Forklift
- > 200 CF
- Convert to CF
- Stored as a liquid
- Report as a liquid in gallons (convert again to gallons)



Employee Break Area - Propane

Is Propane Exempt?



Cooking food Heating water Up to 500 gallons



Heating Employee Area



Threshold & Reporting Units: Propane

- 1. What is it used for?
- 2. What is the threshold?
- 3. Delivered in pounds?
- 4. Physical state on site?
- 5. Reporting units?

- Cooking / Empl. Heat
- > 500 gal
- Convert to gallons
- Stored as a liquid
- Report as a liquid in gallons if applicable.



Retail area- Propane

Is Propane Exempt?



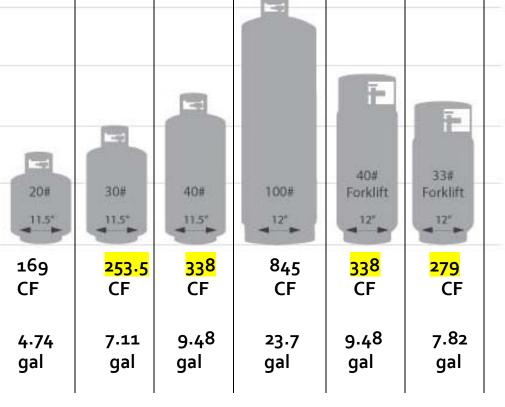
Retail Containers







Propane

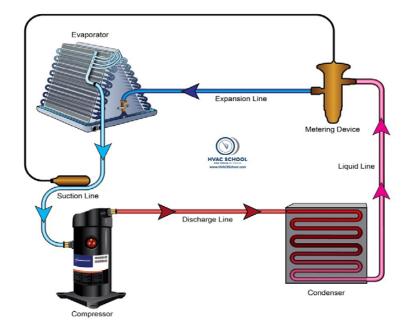




Refrigerants

- Refrigerators
- Building cooling
- Data / equipment cooling







Refrigeration

13 x 30 lbs R404A are used in a commercial refrigerator.

Is this exempt?





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Threshold & Reporting Units: Refrigerant

- 1. What is it used for?
- 2. What is the threshold?

- 3. Delivered in pounds?
- 4. Physical state on site?
- 5. Reporting units?

- Refrigeration
- > 1000 CF (non-flam refrigerant gas)
- Convert to CF
- Both liquid and gas?
- Report as either.





Refrigerant Calculations

> 13x30 lbs of refrigerant for walk-in freezer R404A

390 pounds of R404A on site: A blend of R-125, R-134a, and R-143a.

Hazards: Pressure release, simple asphyxiant.

Conversion Factor: 72.63 cubic feet per 30 pounds.

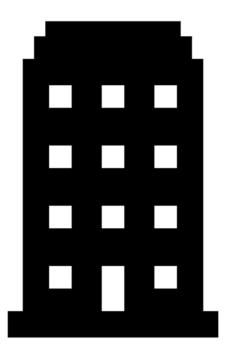
390 pounds * <u>72.63 Cubic Feet</u> = **944.19 CF** < **1000** 30 pounds

BELOW THRESHOLD



Cooling

- Big Box Store cooling system contains 13x30 lbs of R-22.
- 4.3 cubic feet / lbs *390 lbs = 1,677 cubic feet total
- Is this reportable?





Threshold & Reporting Units: Refrigerant

- 1. What is the material used for?
- 2. Is the product flammable or ammonia?
- 3. What is the threshold?

- ✓ Comfort cooling in a closed system.
- ✓ No
- ✓ Exempt



Data Room

Site uses FM-200 or Halon 1301 fire suppression system in computer / battery storage room. Are they required to report at 300 CF?



No! 1000 CF threshold for closed fire suppression systems.



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Poll #6 – Refrigerant Gases

- Which refrigerant gases are 100% exempt?
 - a. R-134a comfort cooling system (Correct Answer)
 - b. Refrigerants in a freezer/refrigerator
 - c. Ammonia cooling system
 - d. Computer room cooling
 - e. All of the above



Summary of Refrigerant exemptions

> ENTIRELY EXEMPT:

- Comfort cooling
- Computer room cooling
- Must be: nonflammable, not ammonia, closed system.

>HIGHER THRESHOLD: 1000 CF

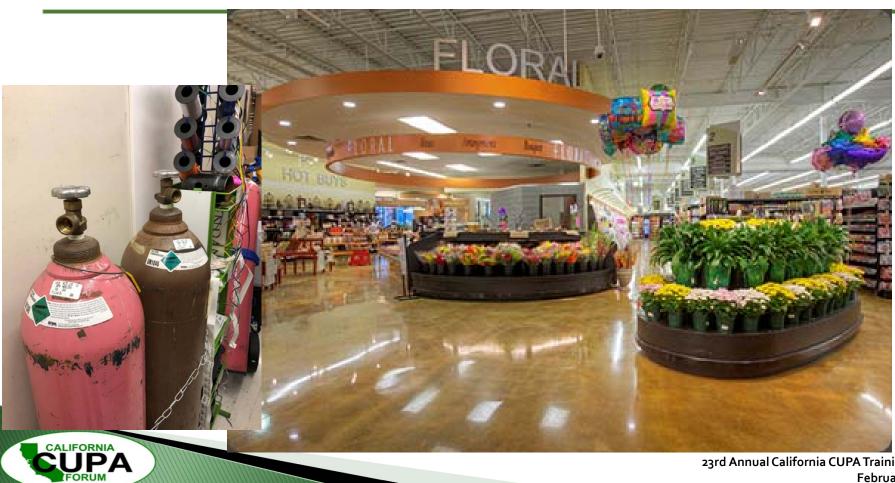
- Refrigeration system
- Cryo / refrigerated / compressed gas, nonflammable





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Florist Area – Helium



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Inert gas threshold

Section 2. Hazards identification

OSHA/HCS status

 This material is considered hazardous by the OSHA H (29 CFR 1910.1200).

Classification of the substance or mixture

: GASES UNDER PRESSURE - Compressed gas

GHS label elements

Hazard pictograms



Signal word

Hazard statements

Warning

: Contains gas under pressure: may explode if heated. May displace oxygen and cause rapid suffocation.



6 cylinders of Helium

- Facility is storing 6 cylinders (bulk discount).

 198 CF each.
- > 6*198= **1188** >**1000 REPORT IT.**
- *however, removal of 1 cylinder = 990 cubic feet.



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1000 CF threshold gases

- > Noble or Inert gases often found in laboratory/R&D.
 - Argon
 - Helium
 - Krypton
 - Neon
 - Nitrogen
 - Xenon

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And non-enriched air





Mini Clinic & Pharmacy – Medical Gases

The clinic is storing four, M-60 sized oxygen cylinders.

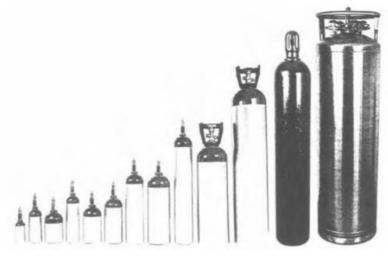
60 CF*4= 240 CF
Not required to report < 1000 CF
Includes:

- Oxygen
- 2. Nitrogen
- 3. Nitrous Oxide





Reference Cylinder Sizes



CYLINDER
DIA./in.
HT./in.
w/o valve

M2	M4	ML6	M6,B	M7	M9,C	D	JD	E	M60	М	н,т	ш
2.5	3.2	4.3	3.2	4.3	4.3	4.3	5.3	4.3	7.3	8	9.3	21
5.3	8.5	7.5	11.5	9	12	16.5	16.5	25.5	23	36	50-52	62-67

Lightweight Aluminum Cylinders

Style	Oxy Capa ft ³	gen acity L	Weight No Valve, Ib.	Service Pressure (psig)
M60	60	1699	22.5	2216
E	24	679	8	2015
M22	22.9	648	9	2216
M18	18	510	7.7	2216
D	15	425	5.5	2015
M9	8.7	246	3.9	2015
M7	7	198	3.5	2015
M6	5.8	164	2.4	2216
M4	4.0	113	1.8	2216

Featherweight Composite Cylinders

Style	Oxy Capa ft ³	gen acity L	Weight No Valve, lb.	Service Pressure (psig)
M2IT	21.8	616	4.0	3000
M16T	16	453	2.9	2216
M06T	6.4	182	1.5	3000
M05T	5.7	160	1.4	3000
M04T	4.4	125	1.1	3000



Food Court - CO2

Facility is operating a soda machine connected to a CO₂ dewar tank. Typical delivery is 250 lbs.

Reportable?





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Threshold & Reporting Units: CO2 Dewar

- 1. What is it used for?
- 2. What is the threshold?
- 3. Delivered in pounds?
- 4. Physical state on site?
- 5. Reporting units?

- ➤ Food*
- > 1000 CF
- Convert to CF
- Stored as a liquid
- Report as a liquid in gallons (convert again to gallons)



CO₂ Example

An organization has CO2 stored in 3 locations. Restaurants in San Francisco, San Mateo, and a warehouse in San Francisco (nonfood). Each restaurant has 300 lbs delivered to each dewar tank. Warehouse has 2 x 20 lbs containers. **Reportable?**

Note: CO2 conversions = 8.74 cf/lb, 8.46 lbs/gal, 73.94 CF/gal



Size	2.5 LB	5 LB	10 LB	15 LB	20 LB	50 LB
Height (Inches)	14	18	22	26	27	55
Diameter (Inches)	4	5	6	7	8	9



Converting to CF

> Both Restaurants

300 lbs * 8.74 CF/lb = 2,622 CF > 1000 CF, Report it!

> Warehouse:

40lbs *8.74 CF/lbs= 350 CF

*However, in San Francisco, 200 CF is reportable for a non-food facility. Remember to check the ordinance.



Summary for Gases

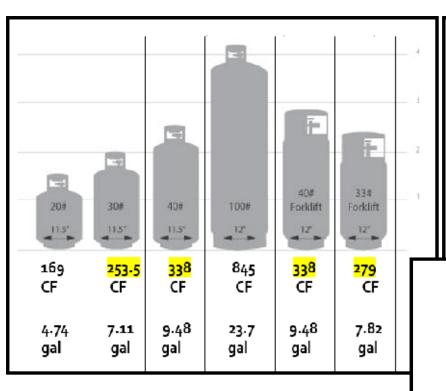
>HIGHER THRESHOLD: 1000 CF

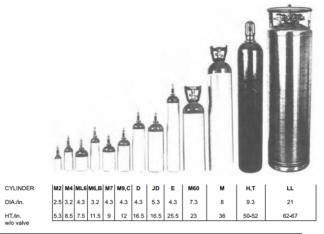
- Hazard: Simple asphyxiant & pressure release *only*
- **Use**: Refrigeration, Fire suppression, medical use by provider.
- Materials: CO2. Oxygen, Nitrogen, nitrous oxide by medical provider.

> ENTIRELY EXEMPT:

- Comfort cooling, Computer room cooling
 - >>Remember additional conditions may apply<









Size

Height

(Inches)

(Inches)

18

5

22

26

27

8

55

Lightweight Aluminum Cylinders

Capa ft ³	gen acity L	Weight No Valve, Ib.	Service Pressure (psig)
60	1699	22.5	2216
24	679	8	2015
22.9	648	9	2216
18	510	7.7	2216
15	425	5.5	2015
8.7	246	3.9	2015
7	198	3.5	2015
5.8	164	2.4	2216
4.0	113	1.8	2216
ׅ֡֡֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜	60 24 22.9 18 15 8.7 7 5.8	24 679 22.9 648 18 510 15 425 8.7 246 7 198 5.8 164	Capacity ft3 No Valve, Ib. 60 1699 22.5 24 679 8 22.9 648 9 18 510 7.7 15 425 5.5 8.7 246 3.9 7 198 3.5 5.8 164 2.4

Featherweight Composite Cylinders

Style		gen acity L	Weight No Valve, lb.	Service Pressure (psig)
M2IT	21.8	616	4.0	3000
M16T	16	453	2.9	2216
M06T	6.4	182	1.5	3000
M05T	5.7	160	1.4	3000
M04T	4.4	125	1.1	3000

Moving on...



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Auto Shop - Lubricating oil

Auto repair shop has 5 * 55 gal drums of oil (each drum a different grade) and **30** gal used oil drum which is picked up weekly.

Exempt! <275 gal





Lubricating oil exemption

1. Exempt if:

- >55 gallon maximum for each type of oil
- > 275 gallon maximum for lubricating oil.



Elevators and Transformers

- Transformers and hydraulic elevators on site store 1000 gallons of oil based fluid. Report it?
- > 275 gal new oil + 1000 gal hydraulic oil oil-filled electrical = 1,275 gal petroleum on site.
- Not reportable

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Oil Exemption Summary

> Exempt for...

- 1. lubricating oil stored at 55 gallon maximum for each type and 275 gallon maximum for all lubricating oil on site.
- 2. Hydraulic and electrical systems at a facility with less than 1,320 gallons of petroleum total on site and no SPCC plan required by 40 CFR 112.



Facilities Department – Non-toxic detergent

- > 9 x 55 gallon drums detergent. 495 gallons total. **Reportable?**
- Higher threshold for liquid or solid materials with <u>ONLY</u> irritant or sensitizer hazards.
- > 550 gallons liquid
- > 5000 pounds solid
- Verification: Cal EPA guidance, Check the SDS, European standard: ECHA CLP Annex VI Table 3.















FARMS

Reduced Reporting Requirements



#7. Are any of your facilities farms?

- > Yes
- ⊳No



#8 Activity – What is exempt for a farm? (word cloud)



Agricultural Exemption

- ▶ Is it a Farm? Harvests an agricultural commodity.
- > MUST MEET 3 REQUIREMENTS
- ▶ If Yes: Exempt from <u>submitting</u>:
 - Emergency response plan
 - Training plan



HSC 25507.1



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Requirements: Paperwork and Postings

- Do Submit facility information and inventory annually.
- Training. Document initial and annual ER training equivalent to HMBP training.
- Post signs on buildings pesticide, petroleum oil, fuel and fertilizers.





Signage for Ag. Buildings

- > Visible in from any direction of approach.
- > Readable from 25 feet



25 Feet

- > Contains the specified information.
- > Note: In all necessary languages to allow understanding.

19 CCR 2670, 2671



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Other Ag. Reporting difference

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A Training Conference February-March 2021

#9 Poll

Have you seen this exemption used in your jurisdiction or experience?

- a) Yes
- b) No
- c) Unsure







Unstaffed Facility

Reduced Reporting Requirements



Poll # 10 – Do you have any unstaffed facilities?

- > Yes
- > No
- > Unsure



Does Reduced Reporting Apply?

- > Typically: Pump stations, water systems, Electrical grid, Cell sites
- > Does it meet the definition?
 - ½ mile from nearest occupied structure.
- > If yes: Must meet 4 additional requirements. (SSSS)







Unstaffed Facility Requirements

Signs - Posted warning according to Fire Code.



2. **Secured** and not accessible to the public.



- 3. **Submission:** Modified requirements
- Storage is limited to specified hazardous materials and quantities.



HSC 25507.2



Modified Submission and Inspection Requirements

<u>Typical</u> → <u>Modified Requirements</u>

- 1. Annual Reporting (25508.2) \rightarrow 1-time* reporting
 - ER and Training Plan 25505(a) (3&4) → Exempt
- Regular Inspections (25511) \rightarrow 1-time* inspection + billing
- 3. Standard Inventory (25506, 25507) -> Higher thresholds

*Unless changes in place for greater than 30 days.



Compare Physical Requirements

Requirements

- Posted warning signs
- Secured
- 3. Employees trained
- 4. Specified thresholds

<u>Farm</u>



Unstaffed

















Compare Reporting Requirements

Requirements:

- Facility Information
- 2. Inventory + Map
- 3. ER + Training plan
- 4. Annual submission
- 5. Regular Inspection



*One-time submission. ** One-time inspection & billing. Unless changes > 30 days





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Moving on...

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EMERGENCY RESPONSE ORGANIZATIONS



Fire Department – Air Storage

- Central storage facility for air tanks for all fire stations.
- Over 1000 cubic feet of compressed air in cylinders stored in this building.
- > Is it exempt?

Yes! Exempt at any amount!





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A Final Word on Exemptions

- What if you think something should be exempt?
- CUPA may initiate exemption of a hazardous material (25507(c)).
- Handler may apply for exemption from HMBP (25507(d)) or hazardous material (25507(e)). (ex: Temp. Emergency Generators)
- Requires: Public input, hearing. 15 day notice to secretary.
- What if your CUPA says your exemption is invalid? If they believe there is a public health, safety, or Env. concern CUPA can require it to be reported.







Agenda

- Exemptions and higher reporting thresholds.
- Mixtures
- Update





MIXTURES









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The 1% Rule

>Do not count a hazardous chemical in a mixture if: concentration is $\leq 1\%$, or $\leq 0.1\%$ for a carcinogenic chemical.

Example: Chlorine generator creates 500 gallon tank of .8% Chlorine in water.

Not reportable



Reporting Mixtures in CERS

- > If using percentage range from SDS, report the highest percentage in the range.
- > % by Weight box does not accept dashes (ie: 12-20% should be reported as 20%)
- > Total can add up to > 100%.
- > Estimate components of waste mixtures to the best of your ability.

3 - Composition/Information on Ingredients

Ingredient	CAS#	Weight Percent
LVP Aliphatic Hydrocarbon	64742-47-8	40-50%
Petroleum Base Oil	64742-56-9	<35%
	64742-65-0	
	64742-53-6	
	64742-54-7	
	64742-71-8	
Aliphatic Hydrocarbon	64742-47-8	<25%



Calculating Mixture Components

- > 25 gals of 90% Acetic Acid is mixed with 40 gals of water (65 gallons total)
- > 25 gals X .90 = 22.5 gals pure Acetic Acid
- > 22.5 gals/65 gals = .35 x 100 = 35% Acetic acid
- > Reportable? YES (65 gals 35% Acetic Acid)

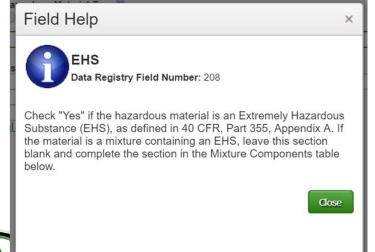
Hazardous Component Name	CAS Number	% by Weight 🛭	EHS
Acetic Acid	64-19-7	35	OYes ● No
Vater	7732-18-5	65	OYes ● No
			○Yes ○ No
			OYes ○ No
			○Yes ○ No



Mixtures of EHS & Non-EHS Chemicals

- >Is the whole chemical reported as an EHS?
 - Check 40 CFR Part 355, Appendices A and B, or "List of Lists"
 - No. Do not check the "EHS" box for the whole chemical. Check the "EHS" box next to each EHS component in the mixtures section.

• If mixture contains EHS component, report quantities in lbs.



Hazardous Component Name	CAS Number	% by Weight 🛭	EHS
Sodium Cyanide	143-33-9	5	●Yes ○ No
Copper Cyanide	544-92-3	3	OYes ● No
Water	7732-18-5	92	OYes ● No
			OYes O No
			OYes C No

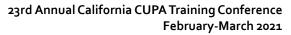
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Mixtures of EHS & Non-EHS Chemicals

> Plating Bath Example

- 16.6 lbs potassium cyanide mixed with 16.6 lbs copper cyanide in 96 gallons of water (100 gallons total)
- Is this reportable on the HMBP?
 - Quantity is >55 gals, so yes, as long as components are >1% of the mixture

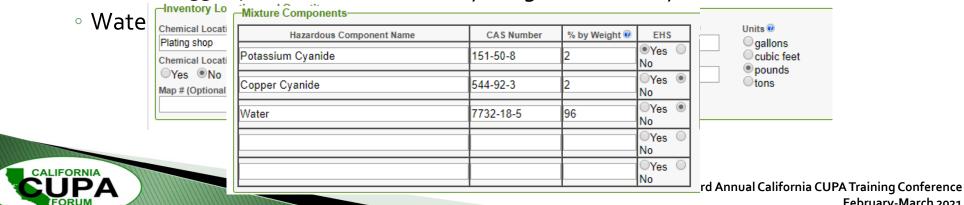




Mixtures of EHS & non EHS

Calculate the % by weight of each component

- >16.6 lbs potassium cyanide mixed with 16.6 lbs copper cyanide in 96 gallons of water (100 gallons total)
 - Hint water ~ 8.34 lbs/gallon
 - 96 gals * 8.34 lbs/gallon = 800.64 lbs
 - 800.64 lbs of water + 33.2 lbs of cyanides = 833.84 lbs total
 - \circ 16.6 lbs/833.84 lbs = .02 x 100 = 2% by weight for each cyanide



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Plating bath

- >2 lbs sodium cyanide mixed with 2 lbs copper cyanide in 100 gallons of water
- > Determine the percentages of each component
- > 100 gals * 8.34 lbs/gal = 834 lbs total + 4 lbs of cyanides = 838 lbs
- > 2 lbs /838 lbs = .0024 x 100 = .24% for each component.
- ➤ Not Reportable <1% (unless CUPA states otherwise)





EHS Gases

- > 100 cubic feet of hydrogen selenide gas
- >>200 CF threshold
- > Does mixture Contain an EHS
- > Is the EHSTPQ <500 lbs
- Does the total in mixture exceed TPQ?

> No

> Yes

> Yes, 10 lbs

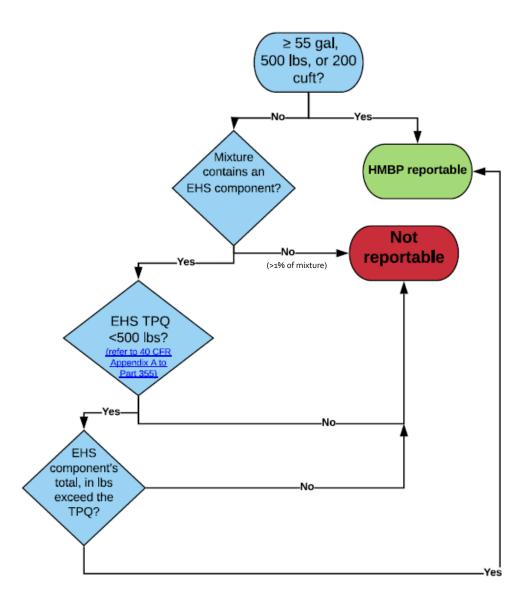
> Calculate it!



EHS Gases

- > 100 cubic feet of hydrogen selenide gas. Note: TPQ for hydrogen selenide gas = 10 lbs. 4.43 cf/lb conversion factor:
- > Calculate:
 - \circ 100 cf/(4.43cf/lb) = 22.57 lbs
 - 22.57lbs > 10 lbs, so gas would need to be reported.
- What about a 100 CF mixture of 5% hydrogen selenide & 95% hydrogen gas?
 - 22.57lbs * .05 = 1.13 lbs











Poll #11Would Argon/CO2 qualify for the 1000 cf higher reporting threshold? Both gases qualify individually...

- > A. Yes
- ➤ B. No
- > C. I don't know

(No correct answer)

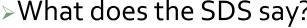


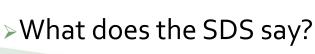
Gas Mixtures

- > Cal EPA guidance The following gases pure/mixture did not meet the higher reporting threshold:
 - Acetylene
 - ° CO2
 - ° CO

CALIFORNIA

- Fluorocarbons
- Hydrogen
- Sulfur Hexafluoride













Lead-Acid Batteries

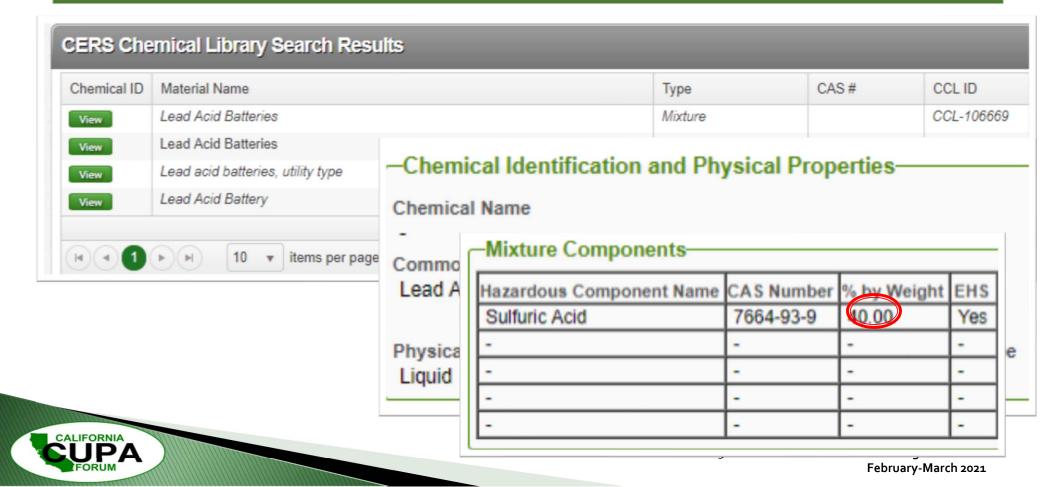
- > 14 batteries, 71 pounds each. 994 lbs total. **Reportable or not?**
- > Cal/EPA Policy Memo (2011) Main hazard is electrolyte.
- > Title 27 Sec. 15186.1: Specifies how to report each item on the inventory page.

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Lead-Acid Batteries Template on CERS



Lead-Acid Battery Calculation

Example: AGM-12125T

12 batteries *1.50 gallons Electrolyte per battery



Part Number	Gallons of Electrolyte*
AGM-1234T	0.38
AGM-1240T	0.46
AGM-1248T	0.81
AGM-1255T	0.64
AGM-1265T	0.99
AGM-1280T	0.92
AGM-1285T	1.22
AGM-12100T	1.11
_	

AGM-12125T

12*1.50= 18 gallons electrolyte

BELOW THRESHOLD

1	50		
AGM-121251	1.50		
AGM-12148T	1.88		
AGM-12210L	2.19		
AGM-12255L	2.52		
AGM-6100T	0.63		
AGM-6220T	1.35		
AGM-6300T	1.87		
AGM-6400HT	2.54		
AGM-2660T	1.35		
AGM-2900T	1.87		
AGM-21200HT	2.54		
*Specific gravity of electrolyte when battery			

is fully charged ranges from 1.28 to 1.36.



Lead-Acid Battery Calculation

	3. (Safe 12HX330-FR	Battery Specification S	ummary:		
Chemistry:			Rechargea	-		iaht.
Material	Voltage:		12 volts			
	Nominal Capac	ity:	82.0Ah 33	• Minimum specific gravity is 1.2		ty is 1.215
	Terminals:		M6 Insert			l/gallon for
	Dimensions (L	×W×H):	11.8 × 6.8 water to calculate the g		gallons.	
Lead	Weight (pound	Weight (pounds):				
Lead Peroxide	31	31 1309-60- SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES				
			Proportics I isted Relow are fo	r Flootrolyto		
Lead Sulfate	1	Sp	ecific Gravity (: 1.215 to 1.35	
Sulfuric Acid (35%)	34	7664-93-	Evaporation Rate: (Butyl Acetate = 1)	Less than 1	% Volatile by Weight:	N/A
			pH:	~1 to 2	Flash Point:	Below room temperature (as hydrogen gas)
			LEL (Lower Explosive Limit)	4.1% (Hydrogen)	UEL (Upper Explosive Limit)	74.2% (Hydrogen)
AVIII 11 11 11 11 11 11 11 11 11 11 11 11	1		Appearance and Odor:		ticle; no apparent odor. Electrol	yte is a clear liquid with a

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Lead-Acid Battery Calculation

Total Electrolyte Volume = (%Weight/100) x (pounds per battery) / ((Specific Gravity electrolyte) x (8.34 pounds/gallon))

```
(%34/100) x (71 p onds) = 0.34*71 / (1.215*8.34) = (1.215) x (8.34 po nds/gal) 2.38 gallons per battery
```

2.38 gallons per battery * 14 batteries = 33.32 ≈ 33 gallons 33 gallons < 55 gallons, below threshold.



Poll # 12: True or false, Title 27 requires lead-acid batteries to be reported in liquid, gallons?

- > True (correct answer)
- > False



Agenda

- Exemptions Common facilities
- Mixtures
- Updates
- Questions



HMBP PROGRAM UPDATES



Poll # 13: Which update would you like to know more about?

- > Which update would you like to know more about?
- A. New battery reporting guidance *in draft*
- B. Triennial HMBP reporting (AB 1429)
- Temporary Generator exemption



Reporting Batteries

- > Work Group Update Guidance currently in DRAFT
- > When complete posted on CUPA forum website
- > CUPA / Fire representatives from across the state

HansenRooks, Summer	Orange County
Helm, Apollonia (Polly) and Erin Thomas	San Mateo County
Keene, Matt	Sacramento County
Kirby, Lee	Downey Fire
Matt Stueber	Ventura County
Whittle, Jim	Shasta County
James Pawlonek, John Wallace, and Nritya Hosamane	Riverside County
Resources	
Darwin Cheng	OC Health, Env. Health
Frederick Chun	Santa Clara Fire



Reviewed Data & Types

Common name of battery

Type of Facility

Hazardous Materials & EPCRA

Hazards Presented

Reportable vs. Non-reportable

Report as Solid or Liquid?



Reviewed Data

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Nickel-Metal Hydride "NiMH", Nickel type

Nickel Cadmium "NiCd" , Nickel type

Lead-Acid, Sodium Nickel Chloride, Nickel type, Sodium-sulfur **Alkaline Batteries**, Alkaline Manganese Dioxide-Zinc, alkaline FC

Lithium Ion "Li-ion", Lithium-ion type, (rechargeable secondary)(LCO), (LFP), (LMO), (NMC), (NCA), polymer

Zinc-Air, Silver-Zinc, Lithium metal batteries, Non-rechargeable (primary cell)

PEMFC – Proton exchange membrane fuel cell

Fuel cell: Direct Methanol FC(catalytic reformer generates hydrogen from methanol). Phosphoric Acid FC (PAFC), Molten Carbonate F C (MCFC), zinc—air fuel cells (mechanically rechargeable), solid oxide FC

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Hazards

> Thermal Runaway



CBS2

"We extinguished the initial fire very quickly," Murphy said. Shortly afterwards, the firefighters saw gas and steam coming off the car-which began venting gas, which Murphy said they believed was a sign of batteries burning. He said his crew again doused the car with water before flames could erupt and contacted Tesla, which recommended propping up the car to access its underbody where the battery is located, Murphy said. They continued to monitor the car for about 6 hours to ensure there was no lingering heat, Murphy added. His crew doused it with an estimated 2,000 gallons of water. https://abcnews.go.com/Technology/tesla-opens-investigation-car-burst-flames-times/story?id=59930420



Critical Issues

- > Hazardous Material definition, 25501(n)(1),(2)
- > **Exemptions** by definition:
 - "Article"
 - "Consumer Product"
- Changes to fire code reporting: Now based on Capacity
- Lead-Acid Battery Reporting "template"



Consumer Product

- HSC Exemption "consumer product" at "retail establishments" HSC 25507(b)(5).
- > If used for commercial and industrial processes?
- > Definition: HSC 25501 (j), Consumer Product Safety Act
 - For things we don't regulate: Personal, family, household, residence, school, recreation
 - Hazard: form, concentration, quantity



Article Definition

- \triangleright Manufacturer lists battery as article \rightarrow No SDS required.
- No SDS required → Excluded from hazardous material definition (HSC 25501(n)(2)) - Hazard Communication standard in CFR 1910.1200(b)(6)(v).
- KEY CRITERIA: "under normal conditions of use does not release ... a hazardous chemical and does not pose a physical hazard or health risk to employees" (1910.1200(c)).



Article – What is not an article

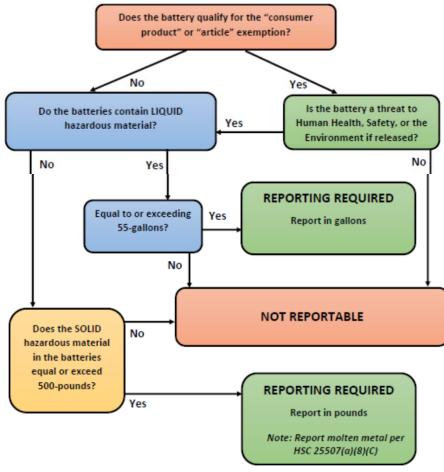
- >OSHA has excluded some batteries:
 - lead-acid batteries
 - lithium ion batteries (non-consumer)
- Conclusion TAG should recommend facilities not to use article exemption and report batteries if over threshold.

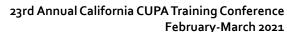


Proposed Guidance

<u>Liquid Electrolyte:</u> Primary immediate hazard. Used for threshold determination when over 55 gallons.

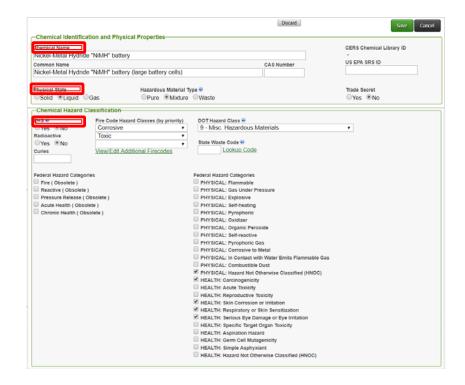
Solid materials still present hazard and are capable of release, exposure, fires. These should be reported when stored over the threshold for solids, 500 lbs.

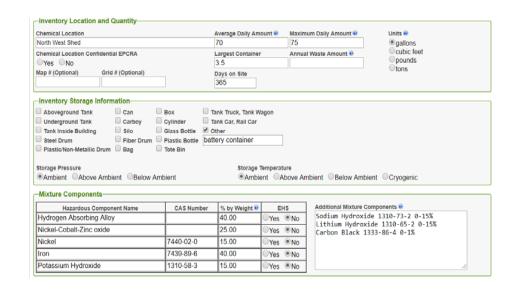






CERS Inventory Examples Provided

















Businesses Regulators Announcements EDT Resources About CERS Search







CERS Central

Welcome to the California Environmental Reporting System (CERS)

Business Portal Sign in

Business Training Portal Sign In

Regulator Sign In

Regulator Training Portal Sign In

New CERS Feature: Hazardous Materials Business Plan (HMBP) Annual Certification

Assembly Bill 1429 went into effect January 1, 2020 and may change Hazardous Materials Business Plan (HMBP) reporting timeframes for your facility.

In collaboration with the Governor's Office of Emergency Services (Cal OES) and the California CUPA Forum Board, CalEPA deployed a new feature in the California Environmental Reporting System (CERS) on September 18, 2020, allowing a business owner/operator to easily certify Hazardous Material Business Plan (HMBP) information in CERS as complete, accurate and, if applicable, meeting EPCRA reporting requirements.

For further information and guidance, please reference CalEPA's

CERS Business and Regulator Portal Help document



CERS Central

Businesses

Regulators

Announcements

EDT

Resources

About CERS





AB1429

- > As of Jan 1, 2020 complete full submission once every 3 years if not subject to EPCRA Tier II reporting or **APSA** reporting
- > All HMBP facilities (regardless of size or EPCRA applicability) must still complete annual certification





February-March 2021

Report Within 30 Days When:

- > 100% or more increase in the quantity of a previously disclosed material
- Handling a new material over threshold amounts
- Change of business or facility address
- Change of business ownership
- Change of business name
- A substantial change in operations





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Certify button only enabled if certain conditions are met.



EPCRA REPORTING

- Up to facility to determine EPCRA
 Tier II applicability
- Don't just rely on whether CERS "CERTIFY" is enabled

EPCRA Tier II Reporting Chemicals	EPCRA Reportable Thresholds
Extremely Hazardous Substances (EHSs, EPCRA Section 302)	500 pounds or the threshold planning quantity, whichever is lower (40 CFR Part 355, Appendices A and B, or "List of Lists")
Gasoline in underground storage tanks at retail gas stations	75,000 gallons (all grades combined)*
Diesel fuel in underground storage tanks at retail gas stations	100,000 gallons (all grades combined)*
All other hazardous chemicals for which Safety Data Sheets are required	10,000 pounds

40 CFR Part 370



^{*}If UST facility was not in compliance at all times during the preceding calendar year then EPCRA reporting is applicable regardless of quantity stored.

Annual Certification Confirmation



Certification Statement: Based on my own knowledge and/or on my inquiry of those individuals responsible for obtaining the information, I, Apollonia Helm (CERS Account username ahelm), certify on 12/22/2020 under penalty of law that I have personally examined and am familiar with the information being submitted, and agree to the following:

- The information contained in the most recently submitted HMBP is complete, accurate, and up-to-date, and there has been no change since the last submitted HMBP submittal elements.
- The information being submitted meets the requirements of Chapter 6.95,
 Article 1 of the California Health and Safety Code.

 The information being submitted is in compliance with section 11022 of Title 42 of the United States Code, if applicable.

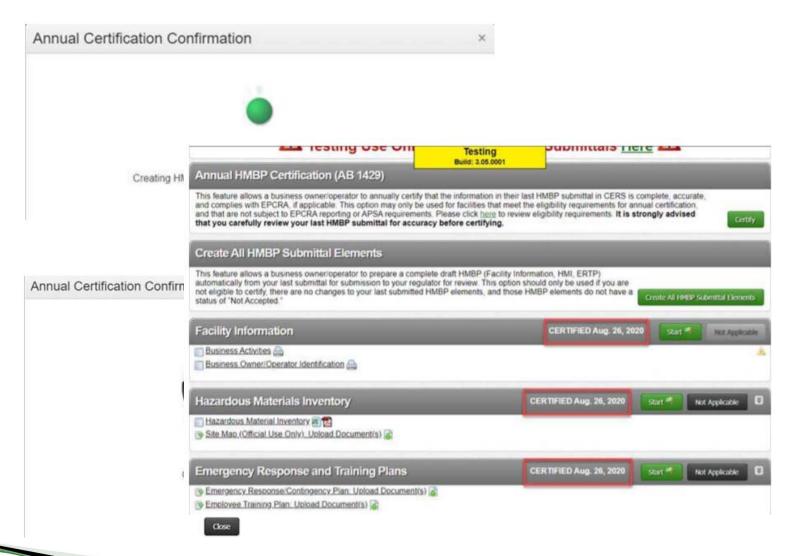
By selecting "Confirm", I am confirming that the above is true, that this facility is NOT subject to EPCRA® reporting or APSA requirements, and that I am authorizing the automated creation and submission of this Annual HMBP Certification.

Once confirmed, the Certification cannot be retracted, deleted, or changed. It is strongly advised that you carefully review your last HMBP submittal for accuracy before certifying. If you have not reviewed your last HMBP and need to do so now, please select "Cancel" and review your last submittal before certifying.



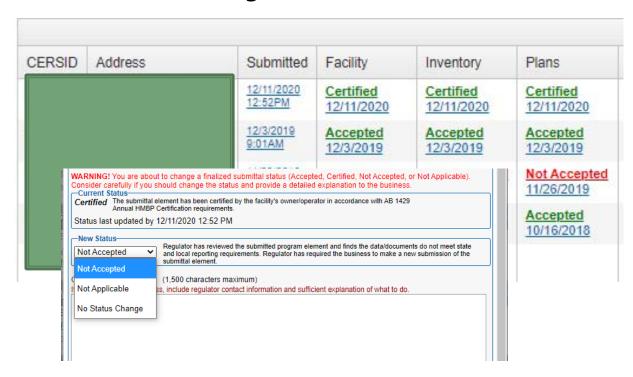
Cancel





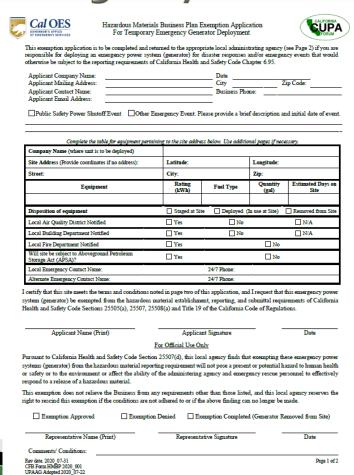


- > No regulator action required.
- Review options: "Not Accepted", "Not Applicable", or "No Status Change"





HMBP Exemption Application for Temporary <u>Emergency Generators</u>





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HMBP Exemption Application for Temporary Emergency Generators

- > CA HSC 6.95, Section 25507(d) allows CUPAs/PAs to exempt a handler from HMBP requirements
- > Form adopted by UPAAG on July 22, 2020
- > Found on CAL OES Website or your CUPA/Ps website
- > Exemption for sites not currently submitting an HMBP

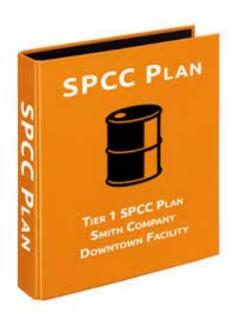


- > CUPA/PAs must allow for public input when approving applications. HSC 25507(f)
- > "Temporary" is not defined, typically 30 60 days. CUPA/PAs should discuss this with facilities





- > HMBP exemption only
- > APSA requirements still apply
- > CUPA/PAs will evaluate applicability of APSA & SPCC plans





CONCLUSION



Is Reporting Required?

Does it meet the definition of HM or exempted?

Effect of a release on health, safety, or Env.

Does the emergency resp. need to know?

Consider:

- 1. Nature of business.
- 2. Proximity to people or sensitive sites.
- Potential damage that the hazardous material may cause.

Consult your regulator

Conservative approach – report it.



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Materials Excluded by Definition

(EPCRA 40 CFR 370.66)

Food, Additive, Drug, Cosmetic > FDA

2. Conditions of use:

- Solid manufactured item like an "Article"
- General public product for personal or family use like "Consumer products"
- Research lab / hospital with Tech. Qual. Individual.
- > Routine Ag / Fertilizer for sale to customer

 *Also take a look at what is excluded

 from Haz Com 29 CFR 1910.1200(b)(6)





DANGER

FLAMMABLE SUBSTANCE:Use adequate ventilation. Wash thoroughly after handling. STORAGE:Store in cool, well ventilated dry place. Store in tightly closed container. Kee away from heat/ flame.

FLAVOR, VANILLA EXTRACT





Introductions

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