CAL/EPA UNIFIED PROGRAM POLICY MEMORANDUM

NUMBER:
UP–11-03

SUBJECT:	DATE ISSUED:
CAL/EPA UNIFIED PROGRAM POLICY FOR LEAD ACID BATTERY INVENTORY REPORTING - GUIDANCE AND TEMPLATE	04/28/11
	EXPIRES: UNTIL RESCINDED
REFERENCES:	CATEGORY:
California Health & Safety Code, Chapter 6.11, Section 25404 California Health & Safety Code, Chapter 6.95, Article 1, Sections 25503 and 25509	BUSINESS PLAN PROGRAM

STATEMENT OF PURPOSE

To establish a uniform inventory form and reporting format for lead acid batteries at hazardous materials businesses that California Environmental Protection Agency (Cal/EPA), local Certified Unified Program Agencies (CUPAs), and regulated businesses will be able to use to ensure that critical information about lead acid batteries is consistently collected and reported.

BACKGROUND

Cal/EPA oversees the administration of the Unified Hazardous Materials and Hazardous Waste Program (Unified Program), a legislatively created consolidation of six hazardous waste and materials programs administered by state and local agencies. The intent of the program is to improve consistency and uniformity in permitting, inspection and enforcement. The Hazardous Materials Release Response Plans and Inventories (HMBP) is one of the six programs. Pursuant to the HMBP Program, each CUPA is required to inspect businesses that meet the requirements of the program. All businesses that handle hazardous materials in quantities equal to or greater than 55 gallons, 500 pounds, or 200 cubic feet of gas or extremely hazardous substances above the threshold planning quantity, are required to inventory their hazardous materials, develop a site map, develop an emergency plan and implement a training program for employees. Businesses must submit this information to the CUPAs. The CUPA verifies the information and provides it to agencies responsible for protection of public health and safety and the environment.

ANALYSIS

While lead acid batteries are a common item, they are somewhat unique as a hazardous material and there has been confusion and inconsistency throughout the State and among CUPA's in how lead acid batteries have been reported within the program limits (i.e. 55 gallons or 500 pounds), what components were reported (electrolyte, lead, entire battery), and how they were reported on the inventories. Several larger statewide businesses requested Cal/EPA provide assistance to develop a reporting standard for lead acid batteries.

Furthermore, with the implementation of the California Environmental Reporting System (CERS), there is a benefit in having a template that may be used for items like lead acid batteries. Currently, the electronic chemical data base has many different inventories for lead acid batteries. A template will reduce the number of duplicate chemical records within the data base, and will help make the reporting consistent statewide.

The Hazardous Materials Business Plan Technical Advisory Group (TAG), and the Hazardous Materials Steering Committee, took on the task of developing a standard for the reporting of lead acid batteries. Representatives of the CUPA Forum Board, CUPA's from across the state, Cal/EPA, Cal EMA, and several large businesses participated in the advisory group.

The attached form and guidance document developed by the TAG has been approved by Cal/EPA, the CUPA Forum Board and Unified Program Administration and Advisory Group (UPAAG) for use by businesses and CUPA's. The attached template will be incorporated within the CERS data base as an approved chemical record for use by businesses and CUPAs.

ACTION PLAN

1. The lead acid battery inventory template and guidance document will be available on-line at the Cal/EPA website.

2. CUPA's are encouraged to inform regulated businesses in their jurisdiction of this guidance document and to post or link to it on their websites.

3. The template has been incorporated into CERS by Cal/EPA as an "approved" chemical in the chemical library.

STATUTORY REFERENCES

California Health and Safety Code, Chapter 6.11, Section 25404
California Health and Safety Code, Chapter 6.95, Article 1, Sections 25503 and 25509

Questions

Please direct all questions regarding this policy to Jim Bohon, Unified Program Manager at (916) 327-5097 or email jbohon@calepa.ca.gov.

Don Johnson

Don Johnson, Assistant Secretary
California Environmental Protection Agency

Attachment 1 – Unified Program Guidance Document – Lead Acid Battery Inventory Reporting
Attachment 2 – Hazardous Material Inventory - Template

CALIFORNIA CUPA FORUM

"An Association of Certified Unified Program Agencies"

P.O. Box 2017, Cameron Park, CA 95682-2017
530-676-0815 OFFICE 530-676-0515 FAX
www.calcupa.net

Unified Program Guidance Document

Lead Acid Battery Inventory Reporting

The Hazardous Materials Business Plan Technical Advisory Group (HMPB TAG) worked with Cal EPA, CalEMA, and industry stakeholders to develop guidance for the inventory reporting of lead acid batteries.

The HMBP TAG developed a generic lead acid battery inventory reporting page, which is attached.

The HMBP TAG came to the following conclusions:

1. Lead acid batteries should be listed as one inventory item. Electrolyte and lead should not be listed as separate inventory items. Listing them separately can give the impression they are physically separate items – electrolyte in a bottle or drum and lead plates in a stack on a shelf.
2. The Common Name should include the words "lead acid batteries". This is the most common and universally understood term used to describe these batteries.
3. The quantity of electrolyte, which is the component of the battery which presents the primary immediate hazard to emergency responders, should be used to determine if the batteries have exceeded the reporting threshold, i.e. lead acid batteries become reportable when the aggregate amount of electrolyte reaches 55 gallons.
4. A reporting threshold based on the volume of electrolyte alone is consistent with EPCRA and California Fire Code thresholds. The EPCRA Tier II reporting threshold for sulfuric acid is 500 pounds. Assuming a maximum 40% sulfuric acid concentration, it would require a minimum of 83 gallons of electrolyte to exceed the EPCRA Tier II reporting threshold. The California Fire Code Section 608 applies to stationary storage battery systems having an electrolyte capacity of more than 50 gallons for flooded lead acid or valve-regulated lead acid (VRLA) batteries used for facility standby power, emergency power or uninterrupted power supplies.
5. The primary immediate hazard from lead acid battery electrolyte is corrosivity. The relative degree of this hazard varies primarily upon the form (e.g., gel, absorbed mat or flooded) and concentration of sulfuric acid in the electrolyte. The concentrations of other hazardous mixture components present in solution,

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such as lead compounds, do not materially affect the primary immediate hazard the batteries present.

a. Sulfuric acid: The percentage by weight of sulfuric acid in battery electrolyte is typically in the 25% - 40% range. The model form uses a value of 40%.

b. Lead compounds in solution: The amount of lead compounds in solution is difficult to get precise data on. The best available information indicates that the percentages by weight of soluble lead compounds in battery electrolyte is less than 1%, and are therefore not listed.

6. Employee training and response to and mitigation of releases from lead acid batteries should take into account all hazards including hazardous soluble and solid metal components.
7. CERS should contain a generic, default lead acid battery inventory entry.
8. To calculate the gallons electrolyte, use tables of gallons of electrolyte per battery cell from manufacturer. If unknown, multiply the fractional weight of electrolyte (from MSDS) times the total battery weight (in pounds) and divide by the minimum specific gravity (from MSDS) times 8.34 pounds per gallon; or

   Electrolyte volume = (X %/100)(Y pounds)/(Z Specific Gravity)(8.34 pounds/gallon)

   Example: (40%/100)(40 pounds)/(1.285)(8.34 pounds/gallon) = 1.49 gallons

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UNIFIED PROGRAM CONSOLIDATED FORM
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION

(one page per material per building or area)

☐ADD ☐DELETE ☐REVISE 200 Page ___ of ___

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3

CHEMICAL LOCATION 201

CHEMICAL LOCATION CONFIDENTIAL EPCRA 202
☐ YES ☐ NO

FACILITY ID # 1

MAP# (optional) 203

GRID# (optional) 204

II. CHEMICAL INFORMATION

CHEMICAL NAME 205

TRADE SECRET ☐ Yes ☒ No 206
If Subject to EPCRA, refer to instructions

COMMON NAME 207
Lead Acid Batteries

EHS* ☒ Yes ☐ No 208
Note: Leave blank per Field 208 instructions for mixtures containing an EHS

CAS# 209

*If EHS is "Yes", all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by CUPA) 210
Corrosive

HAZARDOUS MATERIAL TYPE (Check one item only) ☐ a. PURE ☒ b. MIXTURE ☐ c. WASTE 211

RADIOACTIVE ☐ Yes ☒ No 212

CURIES 213

PHYSICAL STATE (Check one item only) ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS 214

LARGEST CONTAINER *Note: Use gallons of electrolyte.* 215

FED HAZARD CATEGORIES (Check all that apply) ☐ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☒ d. ACUTE HEALTH ☒ e. CHRONIC HEALTH 216

AVERAGE DAILY AMOUNT 217
Note: Use gallons of electrolyte

MAXIMUM DAILY AMOUNT 218
Note: Use gallons of electrolyte

ANNUAL WASTE AMOUNT 219

STATE WASTE CODE 220

UNITS* (Check one item only) ☒ a. GALLONS ☐ b. CUBIC FEET ☐ c. POUNDS ☐ d. TONS 221
* If EHS, amount must be in pounds *Note: Use gallons of electrolyte.*

DAYS ON SITE: 222

STORAGE CONTAINER
☐ a. ABOVEGROUND TANK ☐ e. PLASTIC/NONMETALLIC DRUM ☐ i. FIBER DRUM ☐ m. GLASS BOTTLE ☐ q. RAIL CAR
☐ b. UNDERGROUND TANK ☐ f. CAN ☐ j. BAG ☐ n. PLASTIC BOTTLE ☒ r. OTHER
☐ c. TANK INSIDE BUILDING ☐ g. CARBOY ☐ k. BOX ☐ o. TOTE BIN
☐ d. STEEL DRUM ☐ h. SILO ☐ l. CYLINDER ☐ p. TANK WAGON 223

STORAGE PRESSURE ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT 224

STORAGE TEMPERATURE ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC 225

%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1 40 *Note: Max in range* 226	Sulfuric Acid 227	☒ Yes ☐ No 228	7664-93-9 229
2 230	231	☐ Yes ☐ No 232	233
3 234	235	☐ Yes ☐ No 236	237
4 238	239	☐ Yes ☐ No 240	241
5 242	243	☐ Yes ☐ No 244	245

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

ADDITIONAL LOCALLY COLLECTED INFORMATION 246

If EPCRA, Please Sign Here

Hazardous Materials Inventory - Chemical Description

You must complete a separate Hazardous Materials Inventory - Chemical Description page for each hazardous material (hazardous substances and hazardous waste) that you handle at your facility in aggregate quantities equal to or greater than 500 pounds, 55 gallons, 200 cubic feet of gas (calculated at standard temperature and pressure) or the federal threshold planning quantity for Extremely Hazardous Substances, whichever is less. Also complete a page for each radioactive material handled over quantities for which an emergency plan is required to be adopted pursuant to 10 CFR Parts 30, 40, or 70. The completed inventory should reflect all reportable quantities of hazardous materials at your facility, reported separately for each building or outside adjacent area, with separate pages for unique occurrences of physical state, storage temperature and storage pressure. (Note: the numbering of the instructions follows the data element numbers that are on the Unified Program Consolidated Form (UPCF) pages. These data element numbers are used for electronic submission and are the same as the numbering used in Division 3, Electronic Submittal of Information.) Please number all pages of your submittal. This helps your CUPA or AA identify whether the submittal is complete and if any pages are separated.

1. FACILITY ID NUMBER - This number is assigned by the CUPA or AA. This is the unique number which identifies your facility.
3. BUSINESS NAME - Enter the full legal name of the business.
200. ADD/DELETE/ REVISE - Indicate if the material is being added to the inventory, deleted from the inventory, or if the information previously submitted is being revised. NOTE: You may choose to leave this blank if you resubmit your entire inventory annually.
201. CHEMICAL LOCATION - Enter the building or outside/ adjacent area where the hazardous material is handled. A chemical that is stored at the same pressure and temperature, in multiple locations within a building, can be reported on a single page. NOTE: This information is not subject to public disclosure pursuant to HSC §25506.
202. CHEMICAL LOCATION CONFIDENTIAL - EPCRA - All businesses which are subject to the Emergency Planning and Community Right to Know Act (EPCRA) must check "Yes" to keep chemical location information confidential. If the business does not wish to keep chemical location information confidential check "No".
203. MAP NUMBER - If a map is included, enter the number of the map on which the location of the hazardous material is shown.
204. GRID NUMBER - If grid coordinates are used, enter the grid coordinates of the map that correspond to the location of the hazardous material. If applicable, multiple grid coordinates can be listed.
205. CHEMICAL NAME - Enter the proper chemical name associated with the Chemical Abstract Service (CAS) number of the hazardous material. This should be the International Union of Pure and Applied Chemistry (IUPAC) name found on the Material Safety Data Sheet (MSDS). NOTE: If the chemical is a mixture, do not complete this field; complete the ACOMMON NAME" field instead.
206. TRADE SECRET - Check "Yes" if the information in this section is declared a trade secret, or "No" if it is not.
State requirement: If yes, and business is not subject to EPCRA, disclosure of the designated trade secret information is bound by HSC §25511.
Federal requirement: If yes, and business is subject to EPCRA, disclosure of the designated Trade Secret information is bound by 40 CFR and the business must submit a "Substantiation to Accompany Claims of Trade Secrecy" form (40 CFR 350.27) to USEPA.
207. COMMON NAME - Enter the common name or trade name of the hazardous material or mixture containing a hazardous material.
208. EHS - Check "Yes" if the hazardous material is an Extremely Hazardous Substance (EHS), as defined in 40 CFR, Part 355, Appendix A. If the material is a mixture containing an EHS, leave this section blank and complete the section on hazardous components below.
209. CAS # - Enter the Chemical Abstract Service (CAS) number for the hazardous material. For mixtures, enter the CAS number of the mixture if it has been assigned a number distinct from its components. If the mixture has no CAS number, leave this column blank and report the CAS numbers of the individual hazardous components in the appropriate section below.
210. FIRE CODE HAZARD CLASSES - Fire Code Hazard Classes describe to first responders the type and level of hazardous materials which a business handles. This information shall only be provided if the local fire chief deems it necessary and requests the CUPA or AA to collect it. A list of the hazard classes and instructions on how to determine which class a material falls under are included in the appendices of Article 80 of the Uniform Fire Code. If a material has more than one applicable hazard class, include all. Contact CUPA or AA for guidance.
211. HAZARDOUS MATERIAL TYPE - Check the one box that best describes the type of hazardous material: pure, mixture or waste. If waste material, check only that box. If mixture or waste, complete hazardous components section.
212. RADIOACTIVE - Check "Yes" if the hazardous material is radioactive or "No" if it is not.
213. CURIES - If the hazardous material is radioactive, use this area to report the activity in curies. You may use up to nine digits with a floating decimal point to report activity in curies.
214. PHYSICAL STATE - Check the one box that best describes the state in which the hazardous material is handled: solid, liquid or gas.
215. LARGEST CONTAINER - Enter the total capacity of the largest container in which the material is stored.
216. FEDERAL HAZARD CATEGORIES - Check all categories that describe the physical and health hazards associated with the hazardous material.

PHYSICAL HAZARDS	HEALTH HAZARDS
Fire: Flammable Liquids and Solids, Combustible Liquids, Pyrophorics, Oxidizers	**Acute Health (Immediate):** Highly Toxic, Toxic, Irritants, Sensitizers, Corrosives, other hazardous chemicals with an adverse effect with short term exposure
Reactive: Unstable Reactive, Organic Peroxides, Water Reactive, Radioactive	**Chronic Health (Delayed):** Carcinogens, other hazardous chemicals with an adverse effect with long term exposure
Pressure Release: Explosives, Compressed Gases, Blasting Agents	

217. AVERAGE DAILY AMOUNT - Calculate the average daily amount of the hazardous material or mixture containing a hazardous material, in each building or adjacent/ outside area. Calculations shall be based on the previous year's inventory of material reported on this page. Total all daily amounts and divide by the number of days the chemical will be on site. If this is a material that has not previously been present at this location, the amount shall be the average daily amount you project to be on hand during the course of the year. This amount should be consistent with the units reported in box 221 and should not exceed that of maximum daily amount.
218. MAXIMUM DAILY AMOUNT - Enter the maximum amount of each hazardous material or mixture containing a hazardous material, which is handled in a building or adjacent/outside area at any one time over the course of the year. This amount must contain at a minimum last year's inventory of the material reported on this page, with the reflection of additions, deletions, or revisions projected for the current year. This amount should be consistent with the units reported in box 221.
219. ANNUAL WASTE AMOUNT - If the hazardous material being inventoried is a waste, provide an estimate of the annual amount handled.
220. STATE WASTE CODE - If the hazardous material is a waste, enter the appropriate California 3-digit hazardous waste code as listed on the back of the Uniform Hazardous Waste Manifest.
221. UNITS - Check the unit of measure that is most appropriate for the material being reported on this page: gallons, pounds, cubic feet or tons. NOTE: If the material is a federally defined Extremely Hazardous Substance (EHS), all amounts must be reported in pounds. If material is a mixture containing an EHS, report the units that the material is stored in (gallons, pounds, cubic feet, or tons).
222. DAYS ON SITE - List the total number of days during the year that the material is on site.
223. STORAGE CONTAINER - Check all boxes that describe the type of storage containers in which the hazardous material is stored. NOTE: If appropriate, you may choose more than one.
224. STORAGE PRESSURE - Check the one box that best describes the pressure at which the hazardous material is stored.
225. STORAGE TEMPERATURE - Check the one box that best describes the temperature at which the hazardous material is stored.
226. HAZARDOUS COMPONENTS 1-5 (% BY WEIGHT) - Enter the percentage weight of the hazardous component in a mixture. If a range of percentages is available, report the highest percentage in that range. (Report for components 2 through 5 in 230, 234, 238, and 242.)
227. HAZARDOUS COMPONENTS 1-5 NAME - When reporting a hazardous material that is a mixture, list up to five chemical names of hazardous components in that mixture by percent weight (refer to MSDS or, in the case of trade secrets, refer to manufacturer). All hazardous components in the mixture present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, should be reported. If more than five hazardous components are present above these percentages, you may attach an additional sheet of paper to capture the required information. When reporting waste mixtures, mineral and chemical composition should be listed. (Report for components 2 through 5 in 231, 235, 239, and 243.)
228. HAZARDOUS COMPONENTS 1-5 EHS - Check "Yes" if the component of the mixture is considered an Extremely Hazardous Substance as defined in 40 CFR, Part 355, or "No" if it is not. (Report for components 2 through 5 in 232, 236, 240, and 244.)
229. HAZARDOUS COMPONENTS 1-5 CAS - List the Chemical Abstract Service (CAS) numbers as related to the hazardous components in the mixture. (Repeat for 2-5.)
246. LOCALLY COLLECTED INFORMATION - This space may be used by the CUPA or AA to collect any additional information necessary to meet the requirements of their individual programs. Contact the CUPA or AA for guidance.