# CAL/EPA UNIFIED PROGRAM POLICY MEMORANDUM

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| NUMBER: UP–11-03 | |
| SUBJECT: CAL/EPA UNIFIED PROGRAM POLICY FOR LEAD ACID BATTERY INVENTORY REPORTING - GUIDANCE AND TEMPLATE | DATE ISSUED: 04/28/11<br>EXPIRES: UNTIL RESCINDED |
| REFERENCES: California Health & Safety Code, Chapter 6.11, Section 25404 California Health & Safety Code, Chapter 6.95, Article 1, Sections 25503 and 25509 | CATEGORY: 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

# CALIFORNIA CUPA FORUM

*"An Association of Certified Unified Program Agencies"*

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# 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