



CONTRA COSTA COUNTY

AGENDA

Hazardous Materials Commission

Wednesday, November 19, 2025

4:00 PM

777 Arnold Dr., Martinez, CA 94553 -
Paramount Room

<https://zoom.us/j/99128939868>

Phone: 1 (669) 444-9171

Meeting ID: 991 2893 9868

Planning & Policy Committee

Committee Chair: Jim Payne

Committee Vice Chair: Eduardo Martinez

Agenda Items: Items may be taken out of order based on the business of the day and preference of the Committee

1. Roll Call and Introductions
2. CONSIDER approval of the September 17, 2025 Hazardous Materials Commission Planning and Policy Committee meeting minutes. [25-4913](#)
Attachments: [HMC P&P September 17 2025 Draft Meeting Minutes](#)
3. Public comment on any item under the jurisdiction of the Committee and not on this agenda (speakers may be limited to two minutes).
4. DISCUSS Hazardous Materials Commission Priorities for 2026. [25-4906](#)
Attachments: [2025 HMC Priorities](#)
5. DISCUSS the 2026 committee chair elections
6. DISCUSS the current regulations around backup batteries for 5G towers. [25-4907](#)
Attachments: [CUPA Leg_Rpt 10.13.25](#)
[UPAAG Battery Reporting Guidance for UPAs - UPAAG Approved - 2022_03-10.docx](#)
7. Announcements from commissioners on items of commission interest.

The next meeting is currently scheduled for January 21, 2025 at 4:00 PM.

Adjourn

The Committee will provide reasonable accommodations for persons with disabilities planning to attend the Committee meetings. Contact the staff person listed below at least 72 hours before the meeting. Any disclosable public records related to an open session item on a regular meeting agenda and distributed by the County to a majority of members of the Committee less than 96 hours prior to that meeting are available for public inspection at 1220 Morello Avenue, Suite 200, Martinez, CA 94553, during normal business hours. Staff reports related to items on the agenda are also accessible online at www.contracosta.ca.gov. If the Zoom connection malfunctions for any reason, the meeting may be paused while a fix is attempted. If the connection is not reestablished, the committee will continue the meeting in person without remote access. Public comment may be submitted via electronic mail on agenda items at least one full work day prior to the published meeting time.

For Additional Information Contact: Adam Springer at 925-655-3216



CONTRA COSTA COUNTY

1025 ESCOBAR STREET
MARTINEZ, CA 94553

Staff Report

File #: 25-4913

Agenda Date: 11/19/2025

Agenda #: 2.

Advisory Board: Hazardous Materials Commission Planning & Policy Committee

Subject: Approval of September Meeting Minutes

Presenter: Committee Chair

Information:

Attached to this agenda item are the draft meeting minutes from the September 17, 2025 Hazardous Materials Commission Planning and Policy Committee meeting.

Recommendation(s)/Next Step(s):

CONSIDER approval of the September 17, 2025 Hazardous Materials Commission Planning and Policy Committee meeting minutes.



Meeting Minutes - Draft

CONTRA COSTA COUNTY Hazardous Materials Commission

Wednesday, September 17, 2025

4:00 PM

777 Arnold Dr., Martinez, CA 94553 -

Paramount Room

<https://zoom.us/j/99128939868>

Phone: 1 (669) 444-9171

Meeting ID: 991 2893 9868

Planning & Policy Committee

Committee Chair: Jim Payne

Committee Vice Chair: Eduardo Martinez

The meeting was called to order at 4:00 PM.

Agenda Items: Items may be taken out of order based on the business of the day and preference of the Committee

1. Roll Call and Introductions

Commissioners Present: Mark Hughes, Jim Payne, Lisa Martell, Ron Chin

Commissioners Present Online: Soheila Bana

Public Present: None

Staff Present: Adam Springer

2. CONSIDER approval of the February 19, 2025 Hazardous Materials Commission Planning and Policy Committee meeting minutes.

The commissioners present voted to approve the February 19, 2025 Hazardous Materials Commission Planning and Policy Committee meeting minutes.

Motion: Jim Payne

Second: Lisa Martell

3. Public comment on any item under the jurisdiction of the Committee and not on this agenda (speakers may be limited to two minutes).

No members of the public were present and therefore there were no comments made by members of the public.

NEW BUSINESS

4. DISCUSS SB 684 & AB 1243 and the attached resolutions and CONSIDER making a recommendation to the full commission.

AB1243 | California 2025-2026 | Polluters Pay Climate Superfund Act of 2025. | TrackBill [trackbill.com]

SB684 | California 2025-2026 | Polluters Pay Climate Superfund Act of 2025. | TrackBill [trackbill.com]

The commissioners present reviewed the attached documents and had a discussion. Commissioner Hughes stated that these bills did not make it to the floor and were instead sent back to the originating committee for revision. Commissioner Payne stated that he believed the rationale behind this was concerns regarding the language used and a lack of clarity. Some commissioners felt that retroactive penalties would be unfair considering companies were in compliance with the law and regulations at the time. The commissioners agreed that it seemed premature to make any recommendations until the bills are brought back again.

5. DISCUSS the Stanford report and related article regarding the dangers of gas stoves and CONSIDER making a recommendation to the full commission.

The commissioners present review the attached documents. Staff member Adam suggested referring this topic to the Ombudsperson as it seems more health-related and potentially outside of the committee's scope. The commissioners recalled that cities had previously made proposals on gas stoves only in new builds but that these were overturned by the courts. Commissioner Bana stated that a contributing factor to this was a large push back from the restaurant industries. Commissioner Hughes noted that by 2030 you will no longer be able to purchase gas water heaters and furnaces in California, however, gas stoves are under federal jurisdiction. Gas stoves can instead include a warning label on them to inform the public of potential health impacts, but the commission believes this was vetoed by Governor Newsom. The commission felt that indoor air quality was outside of the scope of this committee and decided to not make any recommendations on the topic.

6. DISCUSS the expiring terms for Business Seat #2 and Environmental Engineering Firms.

The commissioners present discussed the expiring terms on this committee. Commissioner Hughes stated that he and his alternate Amy McTigue will reapply for another term as Business Seat #2 and will acquire a nomination letter from the Industrial Association. Commissioner Chin stated that he would also like to reapply for another term as Environmental Engineering Firm and will acquire a nomination letter from Innovex, Environmental Management Inc. Commissioner Chin stated that his daughter Maile, former HMC student intern, is interested in applying for the commission, but wanted to ensure there was not an issue due to the familial relationship. Staff has also contacted other environmental engineering firms requesting a nomination for the expiring seat. If there are more than two nominations presented to the commission, the nominees will all need to be interviewed before making a recommendation to the Internal Operations Committee and ultimately the Board of Supervisors.

7. Announcements from commissioners on items of commission interest.

Commissioner Bana made a suggestion for a future agenda item. She stated that an issue has come up in her community around the installation of backup batteries for 5G towers on the sidewalk. She expressed concerns around what would occur if it was struck by a vehicle and she wants to know if the county has any guidelines around this. Commissioner Payne stated that they would have needed to pull a permit before installation. Commissioner Bana stated that they had but citizens of Richmond filed a petition and then Public Works stopped the project. Staff will check on what guidelines the county has in place and what the permitting process is for these types of batteries.

Commissioner Martell inquired about if the commission had made a recommendation regarding UL certified lithium ion batteries. Staff stated they believe the county already requires batteries sold within the county to be UL certified, but will confirm, and the major concern is batteries purchased online and shipped here.

8. Plan next meeting agenda.

The next meeting is currently scheduled for November 19th at 4:00 PM.

Adjourn

The meeting was adjourned at 4:36 PM.

Full meeting recording can be found here: <https://contra-costa.legistar.com/Calendar.aspx>



CONTRA COSTA COUNTY

1025 ESCOBAR STREET
MARTINEZ, CA 94553

Staff Report

File #: 25-4906

Agenda Date: 11/19/2025

Agenda #: 4.

Advisory Board: Hazardous Materials Commission Planning & Policy Committee

Subject: Commission Priorities for 2026

Presenter:

Information:

Attached to this agenda item are the commission priorities as assigned to each committee for 2025 for reference.

Recommendation(s)/Next Step(s):

DISCUSS Hazardous Materials Commission Priorities for 2026.

2025 HMC Priorities for Consideration

General Priorities

- Brownfield development-cleanup standards/reuses ; Emerging remediation technology e.g., in situ phytoremediation, bugs/bioremediation, albino redwoods, mycelium (mushrooms)
- Soil/water contamination – unhoused population impacts – signage for hazardous/carcinogenic/radioactive sites
- Carbon capture technologies/ carbon sequestration
- Concerns from increased electrification – byproducts, EV,
- PFAS/Forever chemical treatments (contact EPA)
- Thermographic ink used for receipts – carcinogenic concerns – raise public awareness
AB134? Banning in CA

Assigned to Operations Committee

- Hazardous Materials transportation corridors. E.g., Railroads, impacts from Sea Level Rise DCD working on this as well)
- Battery waste management, recycling ; Promote sodium batteries vs lithium batteries ; emergency response/chemicals used for fires (contact EPA ; Con Fire)
- Hydrogen generation

Assigned to Planning & Policy Committee

- Monitor general plan (continue)
- CWS notification
- Aviation fuel changes (2031) (Richmond company “twelve” jet fuel from CO2)



CONTRA COSTA COUNTY

1025 ESCOBAR STREET
MARTINEZ, CA 94553

Staff Report

File #: 25-4907

Agenda Date: 11/19/2025

Agenda #: 6.

Advisory Board: Hazardous Materials Commission Planning & Policy Committee

Subject: Regulations: Backup Batteries for 5G Towers

Presenter: Committee Chair

Information:

Attached to this agenda item are the UPAAG Battery Reporting Guide and a legislative update from the CUPA forum board.

Recommendation(s)/Next Step(s):

DISCUSS the current regulations around backup batteries for 5G towers.

CUPA

Tuesday, 10/14/2025

CO-SPONSOR/SUPPORT

[AB 993](#) ([Hadwick, R](#)) Hazardous materials management: Rural CUPA Reimbursement Account.

Last Amended: 05/23/2025

Location: 10/01/2025 - Assembly **CHAPTERED**

Summary: The current law mandates that the Secretary for Environmental Protection set regulations for a unified hazardous waste and materials management program. Cities or local agencies that meet certain criteria can apply to implement this program, while every county must apply to become a Certified Unified Program Agency (CUPA) to execute it. A fund called the Rural CUPA Reimbursement Account supports counties with fewer than 150,000 residents that have not been certified as CUPAs by January 1, 2000, but that implement the program using a designated CUPA. The proposed bill, pending budget allocation, would extend eligibility for these funds to all counties under 150,000 residents, removing restrictions related to certification date or implementation status.

[AB 1459](#) ([Committee on Environmental Safety and Toxic Materials](#)) Hazardous waste: underground storage tanks.

Last Amended: 06/09/2025

Location: 07/30/2025 - Assembly **CHAPTERED**

Summary: The existing law requires facilities that generate, treat, or store hazardous waste to have a permit or authorization from the Department of Toxic Substances Control or a unified program agency. However, a permit is not needed for treating hazardous waste generated onsite in a laboratory if specific procedures and quantities are followed. The proposed bill prioritizes these specified procedures and, in their absence, allows the use of the manufacturer's procedures, provided they do not conflict with existing regulations. It also permits required notifications and certifications regarding compliance, which were previously done in person or by certified mail, to be submitted through the statewide information management system. Regarding underground storage tanks, the current law regulates these with a definition that excludes certain tanks, such as those used for hydraulic fluid in closed-loop mechanical systems operating lifts and elevators. The bill expands this exclusion to include tanks holding hydraulic or dielectric fluid for systems that use compressed air, hydraulic fluid, or dielectric fluid to operate lifts, elevators, and other similar devices, including electric cooling or insulation systems.

NEUTRAL

[AB 588](#) ([Patel, D](#)) State Fire Marshal: lithium battery working group: membership: funding.

Last Amended: 04/21/2025

Location: 05/23/2025 - **Assembly 2 YEAR**

Summary: Under existing law, the State Fire Marshal must adopt rules by January 1, 2026, to enhance the fire and electrical safety of electric bicycles, mobility devices, and lithium storage batteries. This bill mandates the creation of a lithium battery working group by the State Fire Marshal. This group will consist of appointed members tasked with identifying and proposing solutions for safety issues related to lithium batteries and their charging infrastructure in residential and commercial areas not covered by the 2025 California Building Standards Code. The group's initial findings and recommendations are due by January 1, 2027. Additionally, funds from the Building Standards Administration Special Revolving Fund, which collects fees from building permit applicants, would be allocated to support the working group's activities and address related building safety concerns.

[AB 864](#) ([Ward, D](#)) Hazardous waste: solar photovoltaic modules.

Last Amended: 07/17/2025

Location: 09/11/2025 - **Senate 2 YEAR**

Summary: Existing law mandates the Department of Toxic Substances Control to create regulations for identifying and managing hazardous and universal waste, including designating end-of-life photovoltaic modules as universal waste if deemed hazardous. Current regulations describe surplus materials and exclude these from being recyclable. Federally, certain hazardous secondary materials transferred for reclamation under specific conditions are not classified as hazardous waste. This bill proposes that solar photovoltaic modules intended for recycling but not suitable for resale, reuse, or refurbishing can be classified as universal waste only until new regulations are established for better management standards. It instructs the department to develop these new standards to enhance material recovery from such modules and adopt federal regulations allowing transfer-based exclusions for these modules. Additionally, the bill categorizes modules that can be resold, reused, or refurbished as surplus material and includes necessary changes to align regulations.

AB 1338 (Solache, D) Metal shredding facilities: regulations.

Last Amended: 04/03/2025

Location: 07/17/2025 - **Senate 2 YEAR**

Summary: Existing law mandates that by January 1, 2027, air pollution or air quality management districts overseeing metal shredding facilities must, in collaboration with relevant state departments, establish requirements for facility-wide fence-line air quality monitoring. Previously, the law allowed these districts to be reimbursed for any reasonable regulatory costs through district fee authority. This bill changes the provision to require that the owner or operator of a metal shredding facility reimburses these costs.

SB 283 (Laird, D) Energy storage systems.

Last Amended: 09/05/2025

Location: 10/06/2025 - Senate **CHAPTERED**

Summary: The existing law allows individuals proposing large energy storage systems to apply for certification from the State Energy Resources Conservation and Development Commission, which serves as a substitute for other permits. This law also gives the Public Utilities Commission (PUC) authority over utilities and mandates initiatives to expand energy storage. This bill introduces new requirements effective January 1, 2026, mandating that applicants for energy storage systems must certify they consulted with the local fire authority at least 30 days prior to applying. Approval of applications will depend on mandatory inspections by fire authorities, whose costs will be borne by the applicant. Additionally, the State Fire Marshal is tasked with proposing new building code regulations restricting energy storage systems to safe locations by July 1, 2026. The bill constitutes a state-mandated program applicable to all cities, regardless of status, and establishes rules for reimbursement of costs incurred by local agencies as a result of these mandates. However, certain mandates are exempt from reimbursement.

SB 501 (Allen, D) Household Hazardous Waste Producer Responsibility Act.

Last Amended: 04/07/2025

Location: 05/23/2025 - **Senate 2 YEAR**

Summary: This bill would create a producer responsibility program specifically for products containing household hazardous waste. Under this program, producers must manage the end-of-life cycle of these products by registering with a producer responsibility organization (PRO) that will collect, transport, and safely handle the waste, all at no cost to consumers or local governments. The PRO is required to create a comprehensive plan outlining these processes, which the Department of Toxic Substances Control (DTSC) must approve. If the plan is not entirely approved, revisions must be made. Once the plan is approved, it must be implemented within 90 days and funded equitably among producers. The PRO must also reimburse local jurisdictions for costs, prepare an annual report, retain relevant documents, and undergo audits, all under penalty of perjury. Additionally, the program establishes the Household Hazardous Waste Producer Responsibility Fund and Penalty Account for administrative charges and penalties, respectively. This proposal also involves CalRecycle updating waste characterization studies to include data on the proper and improper disposal of covered products. Furthermore, the bill makes legislative findings regarding public access limitations and indicates that no state reimbursement is required for certain costs outlined.

SB 615 (Allen, D) Vehicle traction batteries.

Last Amended: 09/02/2025

Location: 09/11/2025 - **Assembly 2 YEAR**

Summary: Existing law mandates the Secretary for Environmental Protection to form a group advising on lithium-ion vehicle battery recycling policies. This group's role is to recommend ways to ensure nearly all used lithium-ion vehicle batteries are safely and cost-effectively recycled or reused. The hazardous waste laws require the Department of Toxic Substances Control (DTSC) to manage hazardous waste, with violations considered crimes. This bill assigns responsibility to battery suppliers and other parties (like secondary users and handlers) for the proper disposal of used vehicle traction batteries. They must also report transactions involving these batteries to the department. Additionally, auctioneers and salvage auctions must report similar information. Suppliers must cover DTSC's regulatory costs, depositing funds into a special state treasury fund meant for implementing and enforcing these rules. The bill also allows for state-approved loans to meet initial regulatory costs and mandates a study on abandoned batteries by 2030, with findings published online every five years. Civil penalties can be imposed for violations, though these infractions are not subject to criminal penalties and reports must be submitted under penalty of perjury. The bill limits public access to certain collected information and concludes that no state reimbursement for local costs is necessary.

AB 626 (Papan, D) Underground storage tanks: design and construction requirements: exemption.

Last Amended: 04/10/2025

Location: 04/23/2025 - Assembly **APPR. SUSPENSE FILE**

Summary: Existing law regulates underground storage tanks (USTs) through the State Water Resources Control Board, mandating that USTs installed after January 1, 1984, store hazardous substances and have both primary and secondary containment, except for specific circumstances. Single-walled tanks do not satisfy these requirements. The law stipulates various requirements for monitoring, inspecting, replacing, and upgrading USTs installed before January 1, 1984. By December 31, 2025, USTs meeting certain conditions must be permanently closed. The bill exempts operators from these closure requirements if they are actively working to upgrade single-walled USTs to double-walled systems by September 30, 2025, under specific conditions. Operators must request this exemption in writing from the local enforcement agency by September 30, 2025, and the agency must respond within 60 days. This creates additional local duties covered under a state-mandated local program. If the Commission on State Mandates determines state costs are mandated, reimbursement will follow statutory procedures. The bill takes immediate effect as an urgency statute.

SB 404 (Caballero, D) Hazardous materials: metal shredding facilities.

Last Amended: 09/04/2025

Location: 10/13/2025 - Senate **VETOED**

Summary: The bill proposes a new regulatory framework for metal shredding facilities, which will be overseen by the Department of Toxic Substances Control (DTSC) separately from existing hazardous waste laws. It repeals the current legal provisions that classify treated metal shredder waste as solid waste, and instead establishes a comprehensive scheme requiring facility operators to hold a permit issued by the DTSC. Permit procedures include public meetings and a mandate for DTSC to finalize permit decisions within three years for existing facilities. Certain materials from metal shredding may not be classified as hazardous if they fulfill specific criteria. The DTSC gains primary responsibility for enforcement, conducting annual inspections, and is authorized to involve legal avenues for violations. The bill mandates emergency reporting, closure plans, and notification for ownership changes. It also introduces a new Metal Shredding Facility subaccount for collected fees, which will fund the implementation and administration of these regulations. The bill further requires the establishment of monitoring and notification systems if hazardous material release is detected, while costs associated with these measures will be reimbursed from the subaccount. Finally, it clarifies that these changes pertain to state concerns, not limited by municipal boundaries, and does not necessitate state reimbursement for local government costs under certain conditions.

[AB 696](#) **(Ransom, D) Lithium-ion vehicle batteries: emergencies: advisory group.**

Last Amended: 08/20/2025

Location: 10/11/2025 - Assembly **VETOED**

Summary: The existing law mandates the Secretary for Environmental Protection to form a group, continuing until January 1, 2027, to advise on policies for recycling lithium-ion batteries from vehicles. This bill proposes that by December 31, 2026, the Office of the State Fire Marshal should establish a new advisory group to focus on safety and management of these batteries during emergencies. Members would be appointed from various specified sectors. This group must meet quarterly until July 1, 2028, collaborating with universities, vehicle manufacturers, and first responders. Their task is to develop standards for safely managing battery-related emergencies, concluding their work by July 1, 2028. These provisions would expire on January 1, 2029.

[AB 855](#) **(Lackey, R) Vehicles: commercial electric vehicle safety.**

Last Amended: 03/04/2025

Location: 05/23/2025 - **Assembly 2 YEAR**

Summary: The California Highway Patrol regulates the safe operation of certain heavy vehicles, such as large motor trucks and truck tractors, in conjunction with other departments like the Department of Consumer Affairs and the U.S. Secretary of Transportation. Additionally, the Office of Emergency Services, part of the Governor's office, is responsible for the state's emergency and disaster response. This bill mandates that by January 1, 2027, the Office of Emergency Services must create and publish an action plan for responding to fires involving electric commercial motor vehicle batteries. This plan should address topics such as best practices for reducing wildfire risks and preventing battery reignition. The development of this plan requires input from stakeholders including the California Highway Patrol, electric truck manufacturers, and labor organizations.

[AB 1288](#) **(Addis, D) Registered environmental health specialists.**

Last Amended: 09/04/2025

Location: 10/03/2025 - Assembly **CHAPTERED**

Summary: The existing law outlines the certification and regulation of registered environmental health specialists by the State Department of Public Health. It includes application, examination, and renewal fees, and sets educational and experience criteria for eligibility. Under this law, an applicant cannot retake the exam if they fail twice, without waiting a specified period, and they cannot take it more than once in a two-year period. The law mandates a registry of specialists and trainees and defines their scope of practice, allowing local health departments to hire specialists to enforce public health laws. Environmental health specialist trainees can work under supervision for up to three years, and the training plan must meet certain standards. A proposed bill introduces changes such as: reducing the wait time to retake the exam to 90 days, modifying educational requirements by removing certain coursework criteria, and extending trainee supervision to five years. It expands the specialists' practice to include body art and medical waste management and updates the training plan elements. The bill requires the registry to be publicly accessible online within 90 days after an exam. It also revises the Environmental Health Specialist Registration Committee's structure by making the State Environmental Health Director the executive officer, altering committee membership, removing term limits, and changing other procedural aspects. Moreover, the bill mandates quarterly committee meetings, which can be in person or virtual, and allows meetings to be canceled under specific circumstances.

[AB 998](#) **(Hadwick, R) Household hazardous waste: vape pens.**

Last Amended: 07/17/2025

Location: 08/29/2025 - **Senate 2 YEAR**

Summary: The Department of Toxic Substances Control oversees hazardous waste management and handling, with violations considered criminal offenses. This bill, effective until January 1, 2029, mandates the department to explore ways to safely and conveniently manage and dispose of vape pens seized from students in schools. It allows household hazardous waste facilities to disassemble such items to separate hazardous components without unauthorized release of materials. It prohibits including vape pens in materials exchange programs, potentially as a crime if violated, creating a state-mandated local program.

Although the California Constitution requires state reimbursement to local agencies for certain mandated costs, this bill specifies that no reimbursement is needed for this action.

Total Measures: 14
Total Tracking Forms: 14

**UNIFIED PROGRAM
ADMINISTRATION AND
ADVISORY GROUP (UPAAG)**

**HAZARDOUS MATERIALS BUSINESS PLAN (HMBP)
STEERING COMMITTEE**

**HAZARDOUS MATERIALS BUSINESS PLAN (HMBP)
TECHNICAL ADVISORY GROUP**

**BATTERY REPORTING GUIDANCE

FOR

UNIFIED PROGRAM AGENCIES**

Edition:
March 10, 2022

UPAAG Adopted Date:
March 10, 2022

INTRODUCTION

A battery work group was established within the Hazardous Materials Business Plan (HMBP) Technical Advisory Group (TAG) with members of UPAs from across the state to help address the issues associated with reporting batteries in the hazardous materials business plan. A review was conducted of many different types of batteries, the materials contained within them, associated hazards, and the technical challenges of reporting to provide the best practices for battery reporting outlined in this document.

Please consider the contents of this document as guidance and that it tries to cover most scenarios. However, battery technology is rapidly changing and may not fit in your exact situation. When faced with questions, one should consult with your management, HMBP TAG, and/or California Environmental Protection Agency for additional guidance and clarification.

I. BACKGROUND

Hazardous Materials Business Plan reporting for batteries presents a technical challenge because of the mixed chemical (ex. contains sulfuric acid and lead) and physical state (ex. both liquid, and solid) as well as the need to report them in a standardized way across the state. In addition to the technical challenges, another concern is the determination of any given battery as either a hazardous material, an article, or a consumer product as defined by laws and regulations for the hazardous materials business plan.

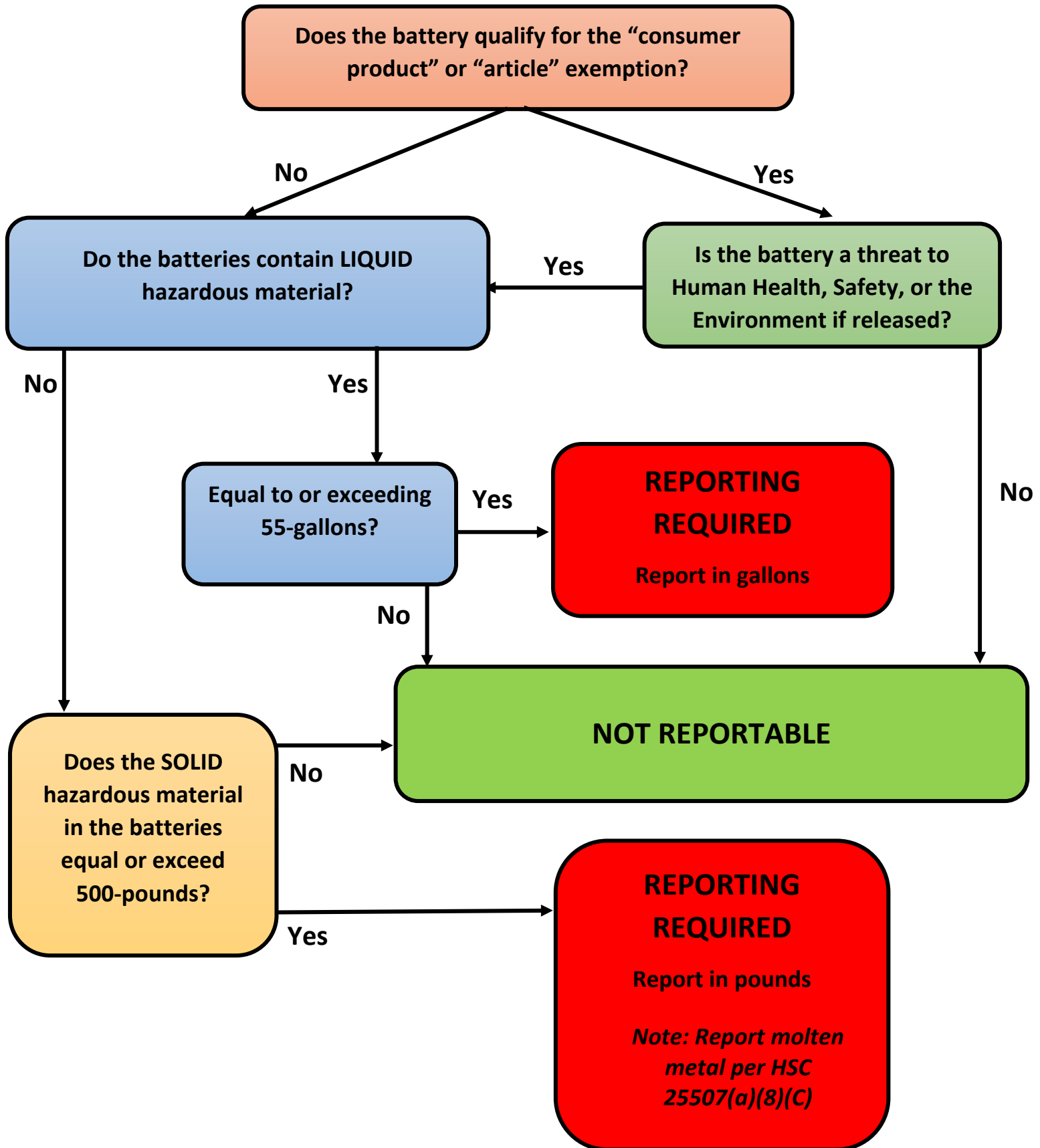
By their nature, batteries are made with a wide variety of materials including solid, liquid, or even molten materials. Although reportable mixtures of hazardous materials in different physical states can occur with some regularity, batteries represent a very frequent example of this reporting issue. Batteries use has continued or increase in many industries for power storage, management, electronic devices, and as a general utility. The battery industry continues to improve and change battery chemistry for residential, commercial, or grid-scale application. This results in significant variation, making it difficult to provide a simple answer as to how batteries should be properly reported on the HMBP.

Another issue is that the manufacturers often state that the battery is an “article” on the data sheet or safety data sheet (SDS). This identification presents a concern because materials determined to be “articles” may not be considered reportable hazardous materials according the California Health and Safety Code (HSC). In addition, consumer products may also be exempt from the definition of a hazardous material. The sections below will explain the exemptions and how to properly report a battery on the HMBP at this time. Section V provides a recommendation from the work group about how the TAG may resolve this concern.

II. REPORTING PROCEDURES

In order to provide concise guidance on how both a regulator and facility should evaluate batteries for proper reporting, this group has created a flow chart, below, which will walk the user through a step-by-step process. The first question determines if the battery is excluded from regulation as a hazardous material. The following questions resolve if the battery should be reported as a solid or liquid and the applicable threshold quantity. Each question on the flow chart is discussed in more detail in section C below. Information about how to calculate the quantity of material is in section B.

Battery Reporting Flow Chart for HMBP



A. How to calculate aggregate solid or liquid hazardous material

Liquid - Aggregate quantity of electrolyte should be used to determine if the batteries have reached the reportable quantity threshold of 55 gallons. To calculate volume, use tables indicating gallons of electrolyte per battery cell from manufacturer/supplier and/or specification sheets. If electrolyte volume is unknown, multiply the fractional weight of electrolyte (from SDS) times the total battery weight (in pounds) and divide by the minimum specific gravity (from SDS) times 8.34 pounds per gallon;

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

Solid - Total weight of solid hazardous materials in the battery, in pounds, should be used to determine if the batteries have reached the reportable quantity threshold of 500 pounds. Weight of hazardous material can be obtained from the manufacturer or supplier, specification sheets, or safety data sheets. If unknown, fractional weight of inert material can be subtracted from total battery weight to calculate aggregate quantity of hazardous material.

Molten Metals - Report total weight of combustible metal, or metal alloy that poses an explosive potential, when in molten form, at or above the reporting threshold of 500 pounds as required in HSC [25507\(a\)\(8\)\(C\)](#).

Flow Chart Questions

Does the battery qualify for the “consumer product” or “article” exemption?

“Consumer product”:

Consumer products are defined in the Health and Safety Code ([HSC 25501\(j\)](#)) and 29 CFR 1910.1200. They may be excluded from the list of hazardous materials in HSC 25507(n) paragraph 2 because they are excluded from the Hazard Communication Standard in [1910.1200\(b\)\(6\)](#) as defined by section (ix).

The Health and Safety Code also considers consumer products to be exempt from reporting at retail establishments, but not at the facility that manufactures the product, the warehouse or the distribution center as specified in [HSC 25507\(b\)\(5\)](#). However, the definition must be applied properly. According to the Hazard Communication standard, the exemption can only apply if “the use results in a duration and frequency of exposure which is not greater than the range of exposures that could reasonably be experienced by consumers when used for the purpose intended”.

It is foreseeable that many batteries used for commercial and industrial purposes do not meet the definition of a consumer product. In addition, commercial and industrial uses do not seem to fit the definition referenced by the Hazard Communication standard and found in the Consumer Product Safety Act.

The definition states, “any article, or component part thereof, produced or distributed (i) for sale to a consumer for use in or around a permanent or temporary household or residence, a school, in recreation, or otherwise, or (ii) for the personal use, consumption or enjoyment of a consumer in or around a permanent or temporary household or residence, a school, in recreation, or otherwise”

Definitions:

[HSC 25501\(j\)](#) “Consumer product means a commodity used for personal, family, or household purposes, or is present in the same form, concentration, and quantity as a product prepackaged for distribution to and use by the general public”.

[1910.1200\(b\)\(6\)\(ix\)](#) “Any consumer product or hazardous substance, as those terms are defined in the Consumer Product Safety Act (15 U.S.C. 2051 et seq.) and Federal Hazardous Substances Act (15 U.S.C. 1261 et seq.) respectively, where the employer can show that it is used in the workplace for the purpose intended by the chemical manufacturer or importer of the product, and the use results in a duration and frequency of exposure which is not greater than the range of exposures that could reasonably be experienced by consumers when used for the purpose intended”.

[15 USC 2052\(a\)\(5\) Consumer Product safety Act](#) “CONSUMER PRODUCT.--The term “consumer product” means any article, or component part thereof, produced or distributed (i) for sale to a consumer for use in or around a permanent or temporary household or residence, a school, in recreation, or otherwise, or (ii) for the personal use, consumption or enjoyment of a consumer in or around a permanent or temporary household or residence, a school, in recreation, or otherwise; but such term does not include—...”

Examples: Consumer type batteries may include the familiar sized AAAA to D batteries and button cells which may be formulated as alkaline, lithium ion, nickel metal hydride and could be single-use or rechargeable. These types of batteries typically power consumer type products such as calculators, clocks, flashlights, remotes, radios, toys, and other electronics used for typical consumer-type activities. Keep in mind that if any product is used with a greater frequency or duration than a consumer product or in a way not intended by the manufacturer, it may not qualify as a consumer product.

“Article”:

“Article” is not defined in the HSC, however, it is excluded from the definition of a hazardous material (HSC 25501(n)(2)) by the [Hazard Communication standard in CFR 1910.1200\(b\)\(6\)\(v\)](#). The key criteria in the definition of an “article” is that, “under normal conditions of use does not release more than very small quantities, e.g., minute or trace amounts of a hazardous chemical (as determined under paragraph (d) of this section), and does not pose a physical hazard or health risk to employees” (1910.1200(c)). Some batteries have technical or safety data sheets that list them as an “article” and indicate they are exempt from regulation under the hazard communication regulations in 29 CFR 1910.1200. Depending on the type of physical or health hazards the use of a given battery presents, it may or may not be considered an article. The Occupational Health and Safety Administration has provided several interpretations of this, excluding some batteries from the definition of an article including lead-acid batteries and some lithium ion batteries. References to these interpretations can be found below.

[1910.1200\(c\)](#) Article means a manufactured item other than a fluid or particle: (i) which is formed to a specific shape or design during manufacture; (ii) which has end use function(s) dependent in whole or in part upon its shape or design during end use; and (iii) which under normal conditions of use does not release more than very small quantities, e.g., minute or trace amounts of a hazardous chemical (as determined under paragraph (d) of this section), and does not pose a physical hazard or health risk to employees.

The “[Enfonde letter of interpretation](#)” on this issue, provided by the Occupational Safety and Health Administration in 2004 provides a succinct explanation of when a battery may be considered an article and how banks of sealed UPS batteries for backup power supply are not considered an article.

The [1997 letter of interpretation](#) also provides some examples of why a lead-acid battery is not considered an article, explaining that under normal conditions of use and in foreseeable emergencies (not accidental fires) batteries have the potential to “leak, spill or break” and “have the potential to emit hydrogen gas, which may result in a fire”.

In a [2015 letter response to Labelmaster](#), recorded on their website, the Occupational Health and Safety Administration stated, “lithium-ion batteries (or lithium battery-powered devices) on a whole, although sealed, have the potential to leak, spill, or break during normal conditions of use and foreseeable emergencies and expose employees to chemicals which can pose health (e.g., lithium cobalt, graphite) and/or physical (e.g., burns, fire) hazards, and therefore, cannot be considered an article”

Examples: Items containing batteries such as laptops, phones, and other devices which employee exposure does not occur. Batteries handled by maintenance employees and contractors may be excluded from the definition of an article. Batteries for backup power are typically not considered articles.

Does the battery pose a threat to human health, safety or the environment if released?

The intent of the Unified Program (UP) Hazardous Material Disclosure Program is to protect public and environmental health and safety from the releases or threatened releases of hazardous materials [HSC 25500(a)]. This is accomplished through the development of business plans that disclose basic information about a hazard posed by chemicals. The various battery types handled by businesses have inherit physical and chemical hazards (e.g. elevated operating temperatures, corrosive electrolytes, generation of flammable gases, thermal runaway etc.). On the basis of the hazards presented, a battery may still be subject to UP’s hazardous materials disclosure requirements listed in HSC 25501(n)(3) which states that, the “unified program agency may adopt an ordinance that provides that, within the jurisdiction of the unified program agency, a material not listed in paragraph (2) is a hazardous material for purposes of this article if a handler... or if the governing body of the unified program agency has a reasonable basis for believing that the material would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.”

If the contents of the battery could pose a threat to human health, safety, or the environment if released, contact your unified program agency to verify that if the battery is required to be reported. If yes, proceed to questions 3.

Does the battery contain liquid hazardous material?

If the battery contains a liquid hazardous material, the flow chart instructs the user to report the battery as a liquid when the aggregate quantity of battery electrolyte on site is 55-gallons or greater. However, if a battery contains a negligible amount of liquid, for example less than 1%, it is recommended that the battery be reported as a solid when the aggregate quantity of solid hazardous materials is equal to or exceeds 500 pounds.

The instruction to report the aggregate quantity of batteries as a liquid is based on the reporting requirements for lead-acid batteries found [in CCR Title 27 § 15186.1](#) instead of the mixture reporting instructions from [HSC 25507\(a\)\(1\)\(A\)](#). The 2011 guidance document for lead-acid battery reporting stated the basis for this determination is, “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”. This is also found to be true for other types of battery electrolyte.

If the physical state of materials contained within the battery is unclear (e.g. some electrolytes are in gel form), definitions to help distinguish between a solid and liquid can be found in the

California Fire Code Ch. 2 and they are provided here for reference. **Solid** – a material that has a melting point and decomposes or sublimates at a temperature greater than 68°F (20°C). **Liquid** – a material having a melting point that is equal to or less than 68°F (20°C) and a boiling point which is greater than 68°F (20°C) at 14.7 pounds per square inch absolute (psia)(101 kPa). Where not otherwise identified, the term “liquid” includes both flammable and combustible liquid. If a battery contains molten metal, HSC defines specific reporting in [25507\(a\)\(8\)\(C\)](#) and states that reporting is required for a, “combustible metal, or metal alloy, that poses an explosive potential, when in molten form, in a quantity at any one time during the reporting year that is equal to, or greater than, 500 pounds”. This definition was not intended for use with batteries, however it may be used if applicable. A few examples of these metals are lithium, sodium, and potassium.

Does the solid hazardous material in the battery exceed 500 pounds?

If the battery is composed of solid hazardous material the battery is to be reported as a solid with the reporting threshold of 500 lbs in aggregate on site.

Additional Reporting Requirements:

Discarded batteries are typically universal or hazardous waste. Once deemed a waste, if stored on site at 55 gallons or 500 pounds, they are reportable. See the citations listed for more details: [25501\(n\)\(2\)\(E\)](#), [HSC 25117\(a\)](#), [HSC 25141](#), and [CCR Title 22 66261.1-66261.126](#).

Inventory Page Guidance

Liquid Example: Chemical Inventory Page for Nickel Metal Hydride batteries

The following inventory sheet was created as a guidance document and will not be representative of all Nickel Metal Hydride (NiMH) or all liquid batteries. Always consult the SDS for your specific product to ensure chemical components and hazards are correct. Refer to the flow chart to determine if your batteries are reportable. The following example is for large NiMH battery cells. Smaller consumer NiMH batteries may be reported as solids and/or have different chemical components. An asterisk (*) below indicates a required field in CERS. Please note that more information than the minimum required fields is typically required. Always fill out the inventory pages as completely as possible.

Chemical Identification and Physical Properties Required Fields:

Chemical Name, Common Name*, Physical State*, Hazardous Material Type, Trade Secret. Note: For the Physical state, if battery contains liquid electrolyte at or above the threshold quantity, check “liquid” and report the amounts in gallons.

Chemical Identification and Physical Properties		
Chemical Name Nickel-Metal Hydride "NiMH" Battery		CERS Chemical Library ID -
Common Name Nickel-Metal Hydride "NiMH" Battery (Large Battery Cells)	CAS Number	US EPA SRS ID
Physical State ☐ Solid ☒ Liquid ☐ Gas		Trade Secret ☐ Yes ☒ No
Hazardous Material Type ☐ Pure ☒ Mixture ☐ Waste		

Chemical Hazard Classification Required Fields:

EHS (Extremely Hazardous Substance)*, Radioactive, Fire Code Hazard Class (If available), DOT Hazard Class (If available), 24 Federal Hazard Categories. Note: Ensure 5 (Obsolete) Federal Hazard Categories on the left are unchecked if they are visible to you.

Chemical Hazard Classification		
EHS ⓘ ☐ Yes ☒ No	Fire Code Hazard Classes (by priority) Corrosive ▼ Toxic ▼ View/Edit Additional Firecodes	DOT Hazard Class ⓘ 9 - Misc. Hazardous Materials
Radioactive ☐ Yes ☒ No		State Waste Code ⓘ Lookup Code
Curies 		

Federal Hazard Categories	
☐ Fire (Obsolete)	☐ PHYSICAL: Flammable
☐ Reactive (Obsolete)	☐ PHYSICAL: Gas Under Pressure
☐ Pressure Release (Obsolete)	☐ PHYSICAL: Explosive
☐ Acute Health (Obsolete)	☐ PHYSICAL: Self-heating
☐ Chronic Health (Obsolete)	☐ PHYSICAL: Pyrophoric
	☐ PHYSICAL: Oxidizer
	☐ PHYSICAL: Organic Peroxide
	☐ PHYSICAL: Self-reactive
	☐ PHYSICAL: Pyrophoric Gas
	☐ PHYSICAL: Corrosive to Metal
	☐ PHYSICAL: In Contact with Water Emits Flammable Gas
	☐ PHYSICAL: Combustible Dust
	☒ PHYSICAL: Hazard Not Otherwise Classified (HNOC)
	☒ HEALTH: Carcinogenicity
	☐ HEALTH: Acute Toxicity
	☐ HEALTH: Reproductive Toxicity
	☒ HEALTH: Skin Corrosion or Irritation
	☒ HEALTH: Respiratory or Skin Sensitization
	☒ HEALTH: Serious Eye Damage or Eye Irritation
	☐ HEALTH: Specific Target Organ Toxicity
	☐ HEALTH: Aspiration Hazard
	☐ HEALTH: Germ Cell Mutagenicity
	☐ HEALTH: Simple Asphyxiant
	☐ HEALTH: Hazard Not Otherwise Classified (HNOC)

Inventory Location and Quantity Required Fields:

Chemical Location, Average Daily Amount, Maximum Daily Amount*, Largest Container, Days on Site, Units*. Note: Amounts are an example and will be different for each location. Maximum daily amount should be the total of all containers on site added together ie: 21 batteries that are each contain 3.5 gallons + 1 battery that contains 1.5 gallons = 75 gallons. Average daily amount is the average daily amount stored on site, not the average daily amount used.

Inventory Location and Quantity			
Chemical Location	Average Daily Amount	Maximum Daily Amount	Units ☒ gallons ☐ cubic feet ☐ pounds ☐ tons
North West Shed	70	75	
Chemical Location Confidential EPCRA ☐ Yes ☐ No	Largest Container	Annual Waste Amount	
Map # (Optional)	Grid # (Optional)	Days on Site	
		365	

All amounts should be calculated and reported in gallons as indicated in section II A.

Inventory Storage Information Required Fields:

Inventory Storage Information*, Storage Pressure, Storage Temperature

Inventory Storage Information			
☐ Aboveground Tank	☐ Can	☐ Box	☐ Tank Truck, Tank Wagon
☐ Underground Tank	☐ Carboy	☐ Cylinder	☐ Tank Car, Rail Car
☐ Tank Inside Building	☐ Silo	☐ Glass Bottle	☒ Other
☐ Steel Drum	☐ Fiber Drum	☐ Plastic Bottle	battery container
☐ Plastic/Non-Metallic Drum	☐ Bag	☐ Tote Bin	
Storage Pressure ☒ Ambient ☐ Above Ambient ☐ Below Ambient		Storage Temperature ☒ Ambient ☐ Above Ambient ☐ Below Ambient ☐ Cryogenic	

Mixture Components:

Hazardous Component Name, CAS Number (If available), % by Weight, EHS, Additional Mixture Components (If necessary). Note: Refer to Safety Data Sheet Section 3 for this information. % by weight should be reported as the highest percent listed if a range is shown. It is acceptable for the weight to add up to more than 100%.

Mixture Components			
Hazardous Component Name	CAS Number	% by Weight	EHS
Hydrogen Absorbing Alloy		40.00	☐ Yes ☒ No
Nickel-Cobalt-Zinc oxide		25.00	☐ Yes ☒ No
Nickel	7440-02-0	15.00	☐ Yes ☒ No
Iron	7439-89-6	40.00	☐ Yes ☒ No
Potassium Hydroxide	1310-58-3	15.00	☐ Yes ☒ No

Additional Mixture Components
Sodium Hydroxide 1310-73-2 0-15%
Lithium Hydroxide 1310-65-2 0-15%
Carbon Black 1333-86-4 0-1%

(Full inventory page on next page)

Full Inventory with Required Fields Highlighted – NiMH Liquid

Discard
Save
Cancel

Chemical Identification and Physical Properties

Chemical Name
 Nickel-Metal Hydride "NiMH" battery

Common Name
 Nickel-Metal Hydride "NiMH" battery (large battery cells)

CAS Number
 [Empty]

CERS Chemical Library ID
 -

US EPA SRS ID
 [Empty]

Physical State
☐ Solid ☒ Liquid ☐ Gas

Hazardous Material Type
☐ Pure ☒ Mixture ☐ Waste

Trade Secret
☐ Yes ☒ No

Chemical Hazard Classification

EHS
☐ Yes ☒ No

Fire Code Hazard Classes (by priority)
 Corrosive
 Toxic

DOT Hazard Class
 9 - Misc. Hazardous Materials

State Waste Code
 [Empty] [Lookup Code](#)

Curies
 [Empty]

Federal Hazard Categories
☐ Fire (Obsolete)
☐ Reactive (Obsolete)
☐ Pressure Release (Obsolete)
☐ Acute Health (Obsolete)
☐ Chronic Health (Obsolete)

Federal Hazard Categories
☐ PHYSICAL: Flammable
☐ PHYSICAL: Gas Under Pressure
☐ PHYSICAL: Explosive
☐ PHYSICAL: Self-heating
☐ PHYSICAL: Pyrophoric
☐ PHYSICAL: Oxidizer
☐ PHYSICAL: Organic Peroxide
☐ PHYSICAL: Self-reactive
☐ PHYSICAL: Pyrophoric Gas
☐ PHYSICAL: Corrosive to Metal
☐ PHYSICAL: In Contact with Water Emits Flammable Gas
☐ PHYSICAL: Combustible Dust
☒ PHYSICAL: Hazard Not Otherwise Classified (HNOC)
☒ HEALTH: Carcinogenicity
☐ HEALTH: Acute Toxicity
☐ HEALTH: Reproductive Toxicity
☒ HEALTH: Skin Corrosion or Irritation
☒ HEALTH: Respiratory or Skin Sensitization
☒ HEALTH: Serious Eye Damage or Eye Irritation
☐ HEALTH: Specific Target Organ Toxicity
☐ HEALTH: Aspiration Hazard
☐ HEALTH: Germ Cell Mutagenicity
☐ HEALTH: Simple Asphyxiant
☐ HEALTH: Hazard Not Otherwise Classified (HNOC)

Inventory Location and Quantity

Chemical Location
 North West Shed

Average Daily Amount
 70

Maximum Daily Amount
 75

Units
☒ gallons
☐ cubic feet
☐ pounds
☐ tons

Chemical Location Confidential EPCRA
☐ Yes ☒ No

Largest Container
 3.5

Annual Waste Amount
 [Empty]

Map # (Optional)
 [Empty]

Grid # (Optional)
 [Empty]

Days on Site
 365

Inventory Storage Information

☐ Aboveground Tank ☐ Can ☐ Box ☐ Tank Truck, Tank Wagon
☐ Underground Tank ☐ Carboy ☐ Cylinder ☐ Tank Car, Rail Car
☐ Tank Inside Building ☐ Silo ☐ Glass Bottle ☒ Other
☐ Steel Drum ☐ Fiber Drum ☐ Plastic Bottle ☐ battery container
☐ Plastic/Non-Metallic Drum ☐ Bag ☐ Tote Bin

Storage Pressure
☒ Ambient ☐ Above Ambient ☐ Below Ambient

Storage Temperature
☒ Ambient ☐ Above Ambient ☐ Below Ambient ☐ Cryogenic

Mixture Components

Hazardous Component Name	CAS Number	% by Weight	EHS
Hydrogen Absorbing Alloy		40.00	☐ Yes ☒ No
Nickel-Cobalt-Zinc oxide		25.00	☐ Yes ☒ No
Nickel	7440-02-0	15.00	☐ Yes ☒ No
Iron	7439-89-6	40.00	☐ Yes ☒ No
Potassium Hydroxide	1310-58-3	15.00	☐ Yes ☒ No

Additional Mixture Components
 Sodium Hydroxide 1310-73-2 0-15%
 Lithium Hydroxide 1310-65-2 0-15%
 Carbon Black 1333-86-4 0-1%

A. Solid Example: Chemical Inventory Page for Lithium Ion (Li-ion) batteries

The following inventory sheet was created as a guidance document and will not be representative of all Lithium Ion (Li-ion) or all solid batteries. Always consult the SDS for your specific product to ensure chemical components and hazards are correct. Refer to the flow chart to determine if your batteries are reportable. An asterisk (*) below indicates a required field in CERS. Please note that your CUPA may require more than the minimum required fields. Always fill out the inventory pages as completely as possible.

Chemical Identification and Physical Properties Required Fields:

Chemical Name, Common Name*, Physical State*, Hazardous Material Type, Trade Secret. Note: For the Physical state, if battery does not contain liquid electrolyte, check “solid” and report the amounts in pounds.

Chemical Identification and Physical Properties			
Chemical Name		CERS Chemical Library ID	
Lithium-Ion (li-ion)		-	
Common Name	CAS Number	US EPA SRS ID	
Lithium-Ion Battery			
Physical State	Hazardous Material Type	Trade Secret	
☒ Solid ☐ Liquid ☐ Gas	☐ Pure ☒ Mixture ☐ Waste	☐ Yes ☒ No	

Chemical Hazard Classification Required Fields:

EHS*, Radioactive, Fire Code Hazard Class (If available), DOT Hazard Class (If available), 24 Federal Hazard Categories. Note: Ensure 5 (Obsolete) Federal Hazard Categories on the left are unchecked if they are visible to you.

Chemical Hazard Classification		
EHS	Fire Code Hazard Classes (by priority)	DOT Hazard Class
☐ Yes ☒ No	Toxic	9 - Misc. Hazardous Materials
Radioactive		State Waste Code
☐ Yes ☒ No		
Curies	View/Edit Additional Firecodes	Lookup Code
Federal Hazard Categories		
☒ PHYSICAL: Flammable		
☐ PHYSICAL: Gas Under Pressure		
☒ PHYSICAL: Explosive		
☐ PHYSICAL: Self-heating		
☐ PHYSICAL: Pyrophoric		
☐ PHYSICAL: Oxidizer		
☐ PHYSICAL: Organic Peroxide		
☐ PHYSICAL: Self-reactive		
☐ PHYSICAL: Pyrophoric Gas		
☐ PHYSICAL: Corrosive to Metal		
☐ PHYSICAL: In Contact with Water Emits Flammable Gas		
☐ PHYSICAL: Combustible Dust		
☐ PHYSICAL: Hazard Not Otherwise Classified (HNOC)		
☐ HEALTH: Carcinogenicity		
☐ HEALTH: Acute Toxicity		
☐ HEALTH: Reproductive Toxicity		
☒ HEALTH: Skin Corrosion or Irritation		
☒ HEALTH: Respiratory or Skin Sensitization		
☒ HEALTH: Serious Eye Damage or Eye Irritation		
☐ HEALTH: Specific Target Organ Toxicity		
☐ HEALTH: Aspiration Hazard		
☐ HEALTH: Germ Cell Mutagenicity		
☐ HEALTH: Simple Asphyxiant		
☐ HEALTH: Hazard Not Otherwise Classified (HNOC)		

Inventory Location and Quantity Required Fields:

Chemical Location, Average Daily Amount, Maximum Daily Amount*, Largest Container, Days on Site, Units*. Note: Amounts are an example and will be different for each location. Maximum daily amount should be the total of all containers on site added together (ex. 110 batteries that contain 5 lbs of hazardous materials each = 550 pounds). Average daily amount is the average daily amount stored on site, not the average daily amount used.

Inventory Location and Quantity			
Chemical Location	Average Daily Amount	Maximum Daily Amount	Units ☐ gallons ☐ cubic feet ☒ pounds ☐ tons
Battery rack	500	550	
Chemical Location Confidential EPCRA ☐ Yes ☒ No	Largest Container	Annual Waste Amount	
Map # (Optional)	Grid # (Optional)	Days on Site	

Inventory Storage Information Required Fields:

Inventory Storage Information*, Storage Pressure, Storage Temperature

Inventory Storage Information			
☐ Aboveground Tank	☐ Can	☐ Box	☐ Tank Truck, Tank Wagon
☐ Underground Tank	☐ Carboy	☐ Cylinder	☐ Tank Car, Rail Car
☐ Tank Inside Building	☐ Silo	☐ Glass Bottle	☒ Other
☐ Steel Drum	☐ Fiber Drum	☐ Plastic Bottle	battery
☐ Plastic/Non-Metallic Drum	☐ Bag	☐ Tote Bin	
Storage Pressure ☒ Ambient ☐ Above Ambient ☐ Below Ambient		Storage Temperature ☒ Ambient ☐ Above Ambient ☐ Below Ambient ☐ Cryogenic	

Mixture Components:

Hazardous Component Name, CAS Number (If Available), % by Weight, EHS, Additional Mixture Components (If necessary). Note: Refer to Safety Data Sheet Section 3 for this information. The percent by weight should be reported as the highest percent listed if a range is shown. It is acceptable for the weight to add up to more than 100%.

Mixture Components			
Hazardous Component Name	CAS Number	% by Weight	EHS
Lithium Cobalt Oxide	12190-79-3	35	☐ Yes ☒ No
Carbon, various forms	7440-44-0	30	☐ Yes ☒ No
Polymer Binders		1	☐ Yes ☒ No
Copper	7440-50-8	15	☐ Yes ☒ No
Aluminum	7429-90-5	10	☐ Yes ☒ No

Additional Mixture Components
Organic Carbonates - 10%
Lithium Salts - 6%
Biphenyl - 92-52-4 - .3%

Full Inventory with Required Fields Highlighted - Li-Ion Solid (Next page)

Full Inventory with Required Fields Highlighted - Li-Ion Solid

Chemical Identification and Physical Properties			
Chemical Name		CERS Chemical Library ID	
Lithium-Ion (Li-ion)		-	
Common Name		CAS Number	US EPA SRS ID
Lithium-Ion Battery			
Physical State		Hazardous Material Type	
☒ Solid ☐ Liquid ☐ Gas		☐ Pure ☒ Mixture ☐ Waste	
		Trade Secret	
		☐ Yes ☒ No	

Chemical Hazard Classification			
EHS		Fire Code Hazard Classes (by priority)	
☐ Yes ☒ No		Toxic	
Radioactive			
☐ Yes ☒ No			
Curies		DOT Hazard Class	
		9 - Misc. Hazardous Materials	
		State Waste Code	
		Lookup Code	
Federal Hazard Categories			
☒ PHYSICAL: Flammable ☐ PHYSICAL: Gas Under Pressure ☒ PHYSICAL: Explosive ☐ PHYSICAL: Self-heating ☐ PHYSICAL: Pyrophoric ☐ PHYSICAL: Oxidizer ☐ PHYSICAL: Organic Peroxide ☐ PHYSICAL: Self-reactive ☐ PHYSICAL: Pyrophoric Gas ☐ PHYSICAL: Corrosive to Metal ☐ PHYSICAL: In Contact with Water Emits Flammable Gas ☐ PHYSICAL: Combustible Dust ☐ PHYSICAL: Hazard Not Otherwise Classified (HNOC) ☐ HEALTH: Carcinogenicity ☐ HEALTH: Acute Toxicity ☐ HEALTH: Reproductive Toxicity ☒ HEALTH: Skin Corrosion or Irritation ☒ HEALTH: Respiratory or Skin Sensitization ☒ HEALTH: Serious Eye Damage or Eye Irritation ☐ HEALTH: Specific Target Organ Toxicity ☐ HEALTH: Aspiration Hazard ☐ HEALTH: Germ Cell Mutagenicity ☐ HEALTH: Simple Asphyxiant ☐ HEALTH: Hazard Not Otherwise Classified (HNOC)			

Inventory Location and Quantity			
Chemical Location	Average Daily Amount	Maximum Daily Amount	Units
Battery rack	500	550	☐ gallons ☐ cubic feet ☒ pounds ☐ tons
Chemical Location Confidential EPCRA	Largest Container	Annual Waste Amount	
☐ Yes ☒ No	5		
Map # (Optional)	Grid # (Optional)	Days on Site	
		365	

Inventory Storage Information	
☐ Aboveground Tank ☐ Underground Tank ☐ Tank Inside Building ☐ Steel Drum ☐ Plastic/Non-Metallic Drum	☐ Can ☐ Carboy ☐ Silo ☐ Fiber Drum ☐ Bag ☐ Box ☐ Cylinder ☐ Glass Bottle ☐ Plastic Bottle ☐ Tote Bin ☒ Other battery
Storage Pressure	
☒ Ambient ☐ Above Ambient ☐ Below Ambient	
Storage Temperature	
☒ Ambient ☐ Above Ambient ☐ Below Ambient ☐ Cryogenic	

Mixture Components			
Hazardous Component Name	CAS Number	% by Weight	EHS
Lithium Cobalt Oxide	12190-79-3	35.00	☐ Yes ☒ No
Carbon, various forms	7440-44-0	30.00	☐ Yes ☒ No
Polymer Binders		1.00	☐ Yes ☒ No
Copper	7440-50-8	15.00	☐ Yes ☒ No
Aluminum	7429-90-5	10.00	☐ Yes ☒ No

Additional Mixture Components	
Organic Carbonates - 10% Lithium Salts - 6% Biphenyl -92-52-4 - 0.3%	

B. Sample Chemical Inventory Page for Nickel Cadmium Batteries

Chemical Identification and Physical Properties			
Chemical Name Nickel Cadmium Batteries		CERS Chemical Library ID -	
Common Name Nickel Cadmium Batteries		CAS Number	US EPA SRS ID
Physical State ☐ Solid ☒ Liquid ☐ Gas		Hazardous Material Type ☐ Pure ☒ Mixture ☐ Waste	
		Trade Secret ☐ Yes ☒ No	

Chemical Hazard Classification			
EHS ☒ Yes ☐ No	Fire Code Hazard Classes (by priority)	DOT Hazard Class	
Radioactive ☐ Yes ☒ No		State Waste Code	
Curies	View/Edit Additional Firecodes	Lookup Code	
Federal Hazard Categories ☐ PHYSICAL: Flammable ☐ PHYSICAL: Gas Under Pressure ☐ PHYSICAL: Explosive ☐ PHYSICAL: Self-heating ☐ PHYSICAL: Pyrophoric ☐ PHYSICAL: Oxidizer ☐ PHYSICAL: Organic Peroxide ☐ PHYSICAL: Self-reactive ☐ PHYSICAL: Pyrophoric Gas ☐ PHYSICAL: Corrosive to Metal ☐ PHYSICAL: In Contact with Water Emits Flammable Gas ☐ PHYSICAL: Combustible Dust ☐ PHYSICAL: Hazard Not Otherwise Classified (HNOC) ☐ HEALTH: Carcinogenicity ☐ HEALTH: Acute Toxicity ☐ HEALTH: Reproductive Toxicity ☒ HEALTH: Skin Corrosion or Irritation ☐ HEALTH: Respiratory or Skin Sensitization ☒ HEALTH: Serious Eye Damage or Eye Irritation ☐ HEALTH: Specific Target Organ Toxicity ☐ HEALTH: Aspiration Hazard ☐ HEALTH: Germ Cell Mutagenicity ☐ HEALTH: Simple Asphyxiant ☐ HEALTH: Hazard Not Otherwise Classified (HNOC)			

Inventory Location and Quantity			
Chemical Location North West Enclosure	Average Daily Amount 80	Maximum Daily Amount 80	Units ☒ gallons ☐ cubic feet ☐ pounds ☐ tons
Chemical Location Confidential EPCRA ☐ Yes ☒ No	Largest Container 10	Annual Waste Amount	
Map # (Optional)	Grid # (Optional)	Days on Site 365	

Inventory Storage Information			
☐ Aboveground Tank	☐ Can	☐ Box	☐ Tank Truck, Tank Wagon
☐ Underground Tank	☐ Carboy	☐ Cylinder	☐ Tank Car, Rail Car
☐ Tank Inside Building	☐ Silo	☐ Glass Bottle	☒ Other
☐ Steel Drum	☐ Fiber Drum	☐ Plastic Bottle	NiCad Battery
☐ Plastic/Non-Metallic Drum	☐ Bag	☐ Tote Bin	
Storage Pressure ☒ Ambient ☐ Above Ambient ☐ Below Ambient		Storage Temperature ☒ Ambient ☐ Above Ambient ☐ Below Ambient ☐ Cryogenic	

Mixture Components			
Hazardous Component Name	CAS Number	% by Weight	EHS
Alkaline Electrolyte		40.00	☐ Yes ☒ No
Nickel	7440-02-0	20.00	☐ Yes ☒ No
Active Nickel	12054-48-7	15.00	☐ Yes ☒ No
Active Cadmium (Cadmium Hydroxide)	21041-95-2	12.00	☐ Yes ☒ No
Cobalt	21041-93-0	2.00	☐ Yes ☒ No

C. Sample Chemical Inventory for Lead Acid Batteries

Chemical Identification and Physical Properties

Chemical Name Lead Acid Batteries	CERS Chemical Library ID -
Common Name Lead Acid Batteries	CAS Number -
	US EPA SRS ID -
Physical State ☐ Solid ☒ Liquid ☐ Gas	Hazardous Material Type ? ☐ Pure ☒ Mixture ☐ Waste
	Trade Secret ☐ Yes ☒ No

Chemical Hazard Classification

EHS ? ☐ Yes ☒ No	Fire Code Hazard Classes (by priority) Corrosive	DOT Hazard Class ? 8 - Corrosives (Liquids and Solids)
Radioactive ☐ Yes ☒ No		State Waste Code ? 792 Lookup Code
Curies -	View/Edit Additional Firecodes	
Federal Hazard Categories ☐ Fire (Obsolete) ☐ Reactive (Obsolete) ☐ Pressure Release (Obsolete) ☐ Acute Health (Obsolete) ☐ Chronic Health (Obsolete)	Federal Hazard Categories ☐ PHYSICAL: Flammable ☐ PHYSICAL: Gas Under Pressure ☐ PHYSICAL: Explosive ☐ PHYSICAL: Self-heating ☐ PHYSICAL: Pyrophoric ☐ PHYSICAL: Oxidizer ☐ PHYSICAL: Organic Peroxide ☐ PHYSICAL: Self-reactive ☐ PHYSICAL: Pyrophoric Gas ☒ PHYSICAL: Corrosive to Metal ☐ PHYSICAL: In Contact with Water Emits Flammable Gas ☐ PHYSICAL: Combustible Dust ☐ PHYSICAL: Hazard Not Otherwise Classified (HNOC) ☐ HEALTH: Carcinogenicity ☐ HEALTH: Acute Toxicity ☐ HEALTH: Reproductive Toxicity ☒ HEALTH: Skin Corrosion or Irritation ☐ HEALTH: Respiratory or Skin Sensitization ☒ HEALTH: Serious Eye Damage or Eye Irritation ☐ HEALTH: Specific Target Organ Toxicity ☐ HEALTH: Aspiration Hazard ☐ HEALTH: Germ Cell Mutagenicity ☐ HEALTH: Simple Asphyxiant ☐ HEALTH: Hazard Not Otherwise Classified (HNOC)	

Inventory Location and Quantity

Chemical Location Shop area	Average Daily Amount ? 250	Maximum Daily Amount ? 500	Units ? ☒ gallons ☐ cubic feet ☐ pounds ☐ tons
Chemical Location Confidential EPCRA ☐ Yes ☒ No	Largest Container 5	Annual Waste Amount ?	
Map # (Optional) -	Grid # (Optional) -	Days on Site 365	

Inventory Storage Information

☐ Aboveground Tank ☐ Underground Tank ☐ Tank Inside Building ☐ Steel Drum ☐ Plastic/Non-Metallic Drum	☐ Can ☐ Carboy ☐ Silo ☐ Fiber Drum ☐ Bag	☐ Box ☐ Cylinder ☐ Glass Bottle ☐ Plastic Bottle ☐ Tote Bin	☐ Tank Truck, Tank Wagon ☐ Tank Car, Rail Car ☒ Other Battery
Storage Pressure ☒ Ambient ☐ Above Ambient ☐ Below Ambient	Storage Temperature ☒ Ambient ☐ Above Ambient ☐ Below Ambient ☐ Cryogenic		

Mixture Components

Hazardous Component Name	CAS Number	% by Weight ?	EHS	Additional Mixture Components ?
Sulfuric Acid	7664-93-9	40.00	☒ Yes ☐ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	
			☐ Yes ☐ No	

D. Sample Chemical Inventory for Alkaline Batteries

Chemical Identification and Physical Properties			
Chemical Name Alkaline Batteries (Potassium Hydroxide electrolyte)		CERS Chemical Library ID -	
Common Name Alkaline Batteries	CAS Number 	US EPA SRS ID 	
Physical State ☐ Solid ☒ Liquid ☐ Gas	Hazardous Material Type ☐ Pure ☒ Mixture ☐ Waste	Trade Secret ☐ Yes ☒ No	

Chemical Hazard Classification			
EHS ☒ Yes ☐ No	Fire Code Hazard Classes (by priority) Corrosive	DOT Hazard Class ☒ 9 - Misc. Hazardous Materials	
Radioactive ☐ Yes ☒ No	View/Edit Additional Firecodes	State Waste Code Lookup Code	
Curies 	Federal Hazard Categories ☐ Fire (Obsolete) ☐ Reactive (Obsolete) ☐ Pressure Release (Obsolete) ☐ Acute Health (Obsolete) ☐ Chronic Health (Obsolete)	Federal Hazard Categories ☐ PHYSICAL: Flammable ☐ PHYSICAL: Gas Under Pressure ☐ PHYSICAL: Explosive ☐ PHYSICAL: Self-heating ☐ PHYSICAL: Pyrophoric ☐ PHYSICAL: Oxidizer ☐ PHYSICAL: Organic Peroxide ☐ PHYSICAL: Self-reactive ☐ PHYSICAL: Pyrophoric Gas ☒ PHYSICAL: Corrosive to Metal ☐ PHYSICAL: In Contact with Water Emits Flammable Gas ☐ PHYSICAL: Combustible Dust ☐ PHYSICAL: Hazard Not Otherwise Classified (HNOC) ☐ HEALTH: Carcinogenicity ☐ HEALTH: Acute Toxicity ☐ HEALTH: Reproductive Toxicity ☒ HEALTH: Skin Corrosion or Irritation ☒ HEALTH: Respiratory or Skin Sensitization ☒ HEALTH: Serious Eye Damage or Eye Irritation ☐ HEALTH: Specific Target Organ Toxicity ☐ HEALTH: Aspiration Hazard ☐ HEALTH: Germ Cell Mutagenicity ☐ HEALTH: Simple Asphyxiant ☒ HEALTH: Hazard Not Otherwise Classified (HNOC)	

Inventory Location and Quantity			
Chemical Location Loading Dock Storage Area	Average Daily Amount ☒ 27	Maximum Daily Amount ☒ 55	Units ☒ gallons ☐ cubic feet ☐ pounds ☐ tons
Chemical Location Confidential EPCRA ☐ Yes ☒ No	Largest Container 0.005	Annual Waste Amount	
Map # (Optional) 	Grid # (Optional) 	Days on Site 365	

Inventory Storage Information			
☐ Aboveground Tank ☐ Underground Tank ☐ Tank Inside Building ☐ Steel Drum ☐ Plastic/Non-Metallic Drum	☐ Can ☐ Carboy ☐ Silo ☐ Fiber Drum ☐ Bag	☐ Box ☐ Cylinder ☐ Glass Bottle ☐ Plastic Bottle ☐ Tote Bin	☐ Tank Truck, Tank Wagon ☐ Tank Car, Rail Car ☒ Other battery
Storage Pressure ☒ Ambient ☐ Above Ambient ☐ Below Ambient		Storage Temperature ☒ Ambient ☐ Above Ambient ☐ Below Ambient ☐ Cryogenic	

Mixture Components			
Hazardous Component Name	CAS Number	% by Weight	EHS
Graphite	7782-42-5	6.00	☐ Yes ☒ No
Manganese Dioxide	1313-13-9	45.00	☐ Yes ☒ No
Potassium Hydroxide	1310-58-3	8.00	☐ Yes ☒ No
Zinc	7440-66-6	25.00	☐ Yes ☒ No
			☐ Yes ☒ No

Additional Chemical/Material Description	
Additional Chemical Description Information ☒	
Non-Hazardous Components: Steel (iron CAS# 7439-89-6) Water, Paper, Plastic and Other	
Note: 200 batteries per gallon of potassium hydroxide or 11,000 batteries = 55 gallons	

Fire Code

This guidance document is intended to standardize the reporting requirements for batteries as required in the Hazardous Materials Business Plan Program (HMBP) of the California Health & Safety Code. For fire-based Unified Program Agencies that also enforce the California Fire Code, it is important to note that recent changes to the Fire Code impact the quantity of batteries allowed in an occupancy which may have an effect on the reporting of these hazardous substances.

The growth and diversity of energy storage systems (ESS), along with recent fire incidents resulting in injuries to firefighters, has necessitated the development and update of fire-life safety codes to establish a minimum set of criteria to safeguard these systems. Both the California Fire Code (Chapter 12 - *Energy Systems*) and NFPA 855 (*Standard for the Installation of Stationary Energy Storage Systems*), establishes the minimum safety criteria required to mitigate the hazards associated with battery energy systems as it relates to their design, installation, operation, and maintenance. Whereas previous fire codes used the battery's weight or volume of electrolyte to determine code applicability; starting with the 2019 California Fire Code, the energy capacity of the battery system is now used for this purpose with battery storage systems capacities exceeding the Threshold Quantities listed below required to comply with additional fire code requirements.

**2019 California Fire Code Table 1206.2
Battery Storage System Threshold Quantities**

Battery Technology	Capacity
Flow batteries	20 kWh
Lead acid, all types	70 kWh
Lithium, all types	20 kWh
Nickel cadmium (Ni-Cd)	70 kWh
Sodium, all types	20 kWh
Other battery technologies	10 kWh

Analysis of the Health and Safety Code:

The intent of the HSC 25500 is to provide information about hazardous materials to first responders. However, items that are not specifically contained in HSC [25501\(n\)](#) may not be reportable without an ordinance according to paragraph 3 of that section. The battery work group for the TAG gathered and reviewed a significant amount of information about many different types of batteries in use and available on the market. It was found that most batteries contain hazardous materials in liquid, solid or both forms. It is also determined that these hazardous materials may “pose a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment” (HSC 25501(n)). It would seem they fit the definition of a reportable hazardous material. In some cases, however, these batteries have been excluded from the list of hazardous materials in 25501(n)(2) due to being listed by the manufacturer as an article.

This group considered several different options that could resolve this issue and concluded that the best option may be that the TAG provide guidance that batteries are not considered an “article” for the purposes of HMBP reporting.