

Household Hazardous Waste for Managers

Larry Sweetser
Sweetser & Associates, Inc.

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Class Objective

- Demystify the regulatory requirements for managers of Household Hazardous Waste (HHW) facilities who are not directly involved in handling HHW
- Provide knowledge to encourage you to monitor staff/contractor to:
 - Understand basic operations
 - Ask questions
 - Verify and resolve compliance issues

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Disclaimer

- Few regulators or regulatees understand the full scope of HHW regulations
- Those that do, often disagree on interpretations

*Real knowledge is to know the extent of one's ignorance.
Confucius*

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Overview

- Your Role
- Program Types
- Regulatory Requirements
- Permits/Approvals
- Operational Requirements
- Training Requirements
- Facility Inspection
- Record Keeping
- Due Diligence
- THIS IS NOT A HAZWOPER CLASS

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Your Role

- Overall responsibility for HHW program
- Oversee contractors or staff
- Typically not handle HHW
- May sign shipping papers

- YOU ARE "GENERATOR"



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Program Types

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"Household Hazardous Waste Collection Facility"

- Means a facility operated by a public agency, or its contractor, for the purpose of collecting, handling, treating, storing, recycling, or disposing of household hazardous waste, and its operation may include accepting hazardous waste from conditionally exempt small quantity generators if that acceptance is authorized pursuant to Section 25218.3.

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Program Types

HHW Exempt Federal Hazardous Waste

- Permanent facilities
- Temporary facilities
- Recycle only (ABOP)
- Curbside
- Door-to-door (2 types)
- Mobile
- CESQG
- Limited waste types
 - Universal waste
 - Latex paint, only
 - Home Generated Sharps
- Product Stewardship
 - Paint
 - E-waste
 - Mercury Thermostats
- Other
 - Load checking
 - Illegal dumping
 - Co-collection
 - Foreclosed homes

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Waste Acceptance

	All HHW	Antifreeze	Batteries	Lead Acid	Batteries, Household	Fluorescent lamps	Latex paint	Used oil & Filters	Universal waste
Permanent HHW	●	●	●	●	●	●	●	●	●
Temporary HHW	●	●	●	●	●	●	●	●	●
Recycle Only		●	●	●	●	●	●	●	●
Door-to-Door	●	●	●	●	●	●	●	●	●
Curbside				●	<4 ft	●	●	●	●

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Permanent facilities

- A permanent or semipermanent structure at a fixed location that meets both of the following conditions:
 - (1) The facility is operated at the same location on a continuous, regular schedule
 - (2) The hazardous waste stored at the facility is removed within one year after collection.

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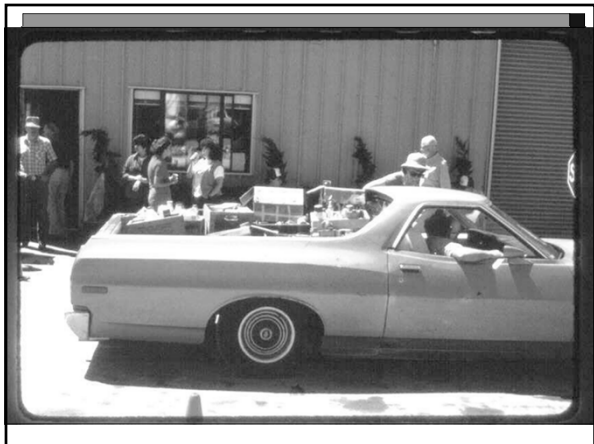




Temporary facilities

- A household hazardous waste collection facility that meets both of the following conditions:
 - (1) The facility is operated not more than once for a period of not more than two days in any one month at the same location
 - (2) Upon termination of operations, all equipment, materials, and waste are removed from the site within 144 hours

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Recycle Only (ABOP)

- A facility that accepts for recycling **only** recyclable household hazardous waste materials including:
 - Latex paint
 - Used oil
 - Used oil filters
 - Antifreeze
 - Spent lead-acid batteries
 - Universal waste including
 - **Intact** spent fluorescent lamps
 - **Intact** spent high intensity discharge (HID) lamps
 - Household batteries (**in compliance with Section 25216.1**)
 - Electronic wastes (mentioned in definition but not in 25218.8)



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Recycle Only (ABOP) (con.)

- No hazardous wastes or other materials are handled at the facility other than the materials specified in paragraph (1) [electronics not listed]
- The materials are transported to the collection facility by either of the following:
 - The person who generated the material
 - The authorized curbside household hazardous waste collection program
- The materials transported to the facility are transported in accordance with Section 25218.5 (5 gallon/50 pound or 15 gallons/125 pounds)
 - Not including spent batteries

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Recycle Only (ABOP) (con.)

- **The materials collected are not stored at the facility for more than 180 days**, except that less than one ton of spent lead-acid batteries may be stored at the facility for up to one year. More than one ton of spent lead-acid batteries shall not be stored at the facility for more than 180 days. **Universal waste?**
- The materials collected are managed in accordance with the hazardous waste labeling, containerization, emergency response, and personnel training requirements of this chapter
- Notification sent to CUPA

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ABOP – Household Batteries

- *Health and Safety Code 25216.1. (a)*
- Sent to authorized facility and all of the following conditions are met:
 - (1) The collection location is either of the following:
 - (A) **Location does not store more than 600 pounds of batteries at any one time and no batteries are stored for longer than 180 days.**
 - (B) A curbside collection program, no batteries are stored for longer than 180 days, and the public agency has considered appropriate volume limits and other necessary precautions to protect the public health, safety, and the environment.
 - (2) The batteries are stored and transferred in a manner which minimizes the possibility of fire, explosion, or any release of hazardous substances or hazardous waste constituents.

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ABOP – Household Batteries

- *Health and Safety Code 25216.1. (a)*
 - (3) The collection location, transporter, and receiving facility retains a copy of the hazardous waste manifest or bill of lading used during transportation for a period of three years.
 - Bill of lading shall have, at a minimum, all of the following information:
 - The name, address, and telephone number of the collection location, transporter, and receiving facility.
 - A general description and quantity of batteries.
 - Date of the transfer.
 - Signatures of the transporter and the collection location representative.

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ABOP – Household Batteries (con.)

- The batteries are not treated or reclaimed at any location exempted from the requirements of this chapter by this article.
- Transferred to a permitted recycling facility or to a disposal facility authorized to accept such batteries
- THE HHW facility may refuse to accept spent batteries if the volume of spent batteries delivered for receipt exceeds the facility's storage capabilities.
- A facility may charge a fee to recover the handling, storage, and disposal costs of those spent batteries, which shall not exceed the facility's handling, storage, and disposal costs.

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Curbside



- A collection service authorized by a public agency with a registered hazardous waste transporter
- Collects one or more of the following types of HHW:
 - Latex paint (5 gallon limit/residence)
 - Used oil (5 gallon limit/residence)
 - Used oil filters (10 pound limit/residence)
 - Universal wastes
 - Fluorescent lamps **less** than 4 feet in length
 - No mercury containing unless the waste is contained in secure packaging that prevents breakage and spillage.
 - NO CAR BATTERIES
- Shall be transported in closed containers and packed in a manner that prevents the containers from tipping, spilling, or breaking during transport.
- Different household hazardous wastes shall not be mixed within a container before or during transport

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Door-to-Door Program

- "A program operated by a public agency, or its contractor, that collects HHW from individual residences, and transports that waste in an inspected and certified hazardous waste transport vehicle to an authorized HHW collection facility"
- Also called "household hazardous waste residential pickup service"
- "Traditional" & "Non-Traditional"

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Door-to-Door Program



- Accept all HHW
- No CESQG waste allowed
- Meets all of the following conditions:
 - The transported HHW shall be in closed containers
 - Packed in a manner that prevents the containers from tipping, spilling, or breaking during transport.
 - Different household hazardous wastes shall not be mixed within a container before or during transport.
- Hazardous waste transporter

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Door-to-Door – Two Types

Traditional

- Hauled to Permanent HHWCF
- Notify CUPA
- Use Receipt to resident
 - Exempt from manifest
 - Retain at least three years
- Combine with facility HHW

Non-Traditional

- Haul to TSDF usually via HW transfer station
- Permit-by-Rule filed
- Can consolidate on truck
 - antifreeze, used oil and filters, and latex paint,
- Quarterly reports to DTSC

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Mobile

- A portable structure within which a household hazardous waste collection facility is operated and that meets all of the following conditions:
 - (1) The facility is operated not more than four times in any one calendar year at the same location
 - (2) The facility is operated not more than three consecutive weeks within a two-month period at the same location
 - (3) Upon the termination of operations, all equipment, materials, and waste are removed from the site within 144 hours
- Not common in California
- Need variance from DTSC since no permit process

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CESQG

- "Conditionally exempt small quantity generator" or "CESQG" means a business concern which meets the criteria specified in Section 261.5 of Title 40 of the Code of Federal Regulations (federal)
- **Includes government agencies and non-profits**
- HHW Facility authorized by DTSC to accept HW from CESQGs
 - Limited to accepting, per calendar month, no more than
 - 100 kilograms (220 pounds) of HW, or
 - 1 kilogram of extremely or an acutely hazardous waste HW
 - **includes all hazardous wastes including UW?**
- *Not your job to verify status – only limit acceptance*
- 40 CFR 261.5 & Health and Safety Code 25218.3. (b)

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CESQG Responsibilities

- EPA ID Number Required
- CESQG contacts HHW Facility prior to each delivery to confirm waste acceptable
- Vehicle owned and operated by the CESQG
- transported in “closed containers and packed in a manner that prevents the containers from tipping, spilling, or breaking during transport”
- Different wastes shall not be mixed within a container before or during transport

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CESQG – HHW Facility Role

- Provide
 - oral, written, or electronic instructions to the CESQG prior to each delivery
 - on proper packing for the safe transportation of the specific HW being transported
- Track name, address, and EPA ID Number
- Track type and quantity of wastes
- Track fee, if any
- Refuse amounts over the limit

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Universal Waste

- Facility that accepts only:
 - Household batteries
 - Fluorescent lamps
 - Electronic devices
 - CRTs
 - CRT glass
 - Mercury-containing equipment
 - Non-empty, hazardous waste aerosol cans

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Latex Paint, Only

- Acceptable at any location, e.g. retailers
- Managed according to all regulations
- Non-latex paint collected considered generated at facility
- Hazardous Materials Business Plan (maybe)
- Transportable with bill of lading not manifest
- DTSC authorization not required
- Includes PaintCare sites
- Health & Safety Code, Section 25217 et.al.

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Home Generated Sharps Consolidation Point

- Submit application for approval by Medical Waste Local Enforcement Agency – *No SQG fee*
- HGS are prohibited from solid waste disposal
- HGS are not regulated as medical waste but after collection, shall be transported and treated as medical waste
- Must comply with all of the following:
 - All sharps waste shall be placed in sharps containers,
 - Sharps containers ready for disposal shall not be held for more than seven days without the written approval of the enforcement agency.

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Product Stewardship

- HHW accepted by retail stores, solid waste or HHW collection programs and costs are paid by stewardship organization such as:
 - Batteries
 - Paint
 - E-waste
 - Thermostats
 - Fluorescent lamps

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Load Checking

- HHW programs can accept wastes from solid waste facility load checking programs
- Typically considered “Household Like”
- Separate EPA ID Number
- Form 303 tracking separately
 - Even if located on same facility

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Illegal Dumping

- Abandoned roadside hazardous wastes can be accepted
- Often collected by public works departments
- HHW or CESQG?



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Co-collection, Solid Waste Company

- Some solid waste companies accept recyclable and universal hazardous wastes
- Franchised solid waste collectors offer or are required to provide certain HHW services; such as:
 - Used oil and filter collection
 - Universal wastes
 - Sharps
 - Door-to-Door (jurisdiction must be generator)

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Foreclosed homes

- HHW or business?
- Clues?
- DTSC Guidance



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Regulatory Requirements

Regulatory Requirements

- Title 22 – California Hazardous Wastes
 - Health & Safety Code
- Title 8 – Cal/OSHA
- 49 CFR – HazMat Transportation
- Other – Medical Waste, Dept Food & Ag
- Permits and approvals

- HHW exempt from federal standards

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Regulatory Requirements

Title 22 = Hazardous

- PBR
- Waste classifications
- Operating standards
- Transportation
- Universal waste
- Latex paint

Title 8 = Safety

- HAZWOPER Training
- Safety and Health Program
- Hazard Communication
- Medical Surveillance
- Personal Protection Equipment

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49 CFR – HazMat Transportation

- Regulates transportation of hazardous materials and hazardous wastes
- Lists hazardous materials shipping names
- Enforced by California Highway Patrol

- Note: public agencies using public vehicles exempt from DOT Hazardous Materials Rule but not California (Driver endorsement >1,001 lbs, placard).*

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Other

- Medical Waste – Dept. of Public Health
 - Sharps
 - Medical wastes
 - Pharmaceuticals (?)
 - Radioactives
- Department Food & Ag
 - Hauling of grease

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Permits/Approvals

- EPA ID number
- Permit-by-Rule (PBR)
 - Permanent
 - Temporary
 - Recycle-Only (ABOP)
- Universal Waste Handler Registration
 - Cut cords or physical alterations = treatment
- Phase 1 Environmental Assessment
- Engineer Certification – Tanks, Lockers
- Financial assurance
- Home-generated Sharp Consolidation Point
- Hazardous Materials Business Plan
- Do not forget CEQA and Land Use*

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EPA ID number

- DTSC form to obtain CAH number.
- CAH flags wastes an exempt from taxes
- Not typically issued to householder
- Required on Uniform Hazardous Waste Manifest

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Permit-by-Rule (PBR)

- Operator must be Public Agency
- PBR submitted to CUPA with Copy to DTSC
- Submitted in person or by certified mail with return receipt requested a minimum of 45 days in advance of the event
 - Temporary PBR (DTSC Form 8464)
 - Permanent PBR (DTSC Form 1094B)

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Permanent PBR Form

- ID Operator & Contractor
- List permits
- Identify property ownership
- List waste types
 - Accepted
 - Not accepted
- Identify consolidated wastes
- Waste volume
 - Average total per month
 - Container capacity
- Days/hours of operation
- Facility description
- Attach
 - Plot plan with wind rose
 - Closure financial responsibility
 - Written agreement
- Signed by principal executive officer or ranking elected official
- Operations Plan
 - Required, available, not filed

Closure Financial Responsibility

- Typically Certificate of Self-Insurance
 - Form 1220
 - Signed by Public Agency Official
- Also allowed:
 - closure trust fund;
 - surety bond guaranteeing payment into a closure trust fund;
 - closure letter of credit;
 - closure insurance;
 - financial test and corporate guarantee for closure;
 - multiple financial mechanisms;
 - alternate financial mechanism approved by DTSC; or
- Adjusted annually for inflation or within 30 days after a change in the closure plan increases the cost of closure.



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Temporary PBR

- ID Operator & Contractor
- Will CESQG be accepted
- Agency notifications
- List permits
- Identify property ownership
- Days/hours of operation
- Operator certification signed by principal executive officer or ranking elected official

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Universal Waste Handler

- A universal waste handler is a generator of universal waste or the owner or operator of a facility that receives universal waste from another universal waste handler, accumulates universal waste, and sends universal waste to another universal waste handler, a facility that accepts hazardous waste, or a foreign country

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Universal Waste Handler

- A universal waste handler may be:
 - A person (e.g., a household or business) who generates universal waste but does not accept universal waste from others
 - A person who accepts and accumulates universal waste generated by others at his or her facility
 - A person who accepts universal waste generated by others and conducts certain treatment and recycling activities allowed by the universal waste handler regulations
- File Notice of Intent online

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Treatment

- Dismantling and/or physical processes such as shredding, grinding, sawing, cutting, compacting etc.
- Separation based upon physical properties and/or
- Screening to separate components based upon size

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Notice of Intent - **Recycler**

DESCRIPTION OF TREATMENT/RECYCLING PROCESSES

ELECTRONIC DEVICES

1. Dismantle electronic devices into their respective components using manual methods and hand tools or mechanical separation of parts. (The only treatment residuals will be components of the electronic device - e.g., plastic, circuit boards, integrated circuits, metals, wiring, UV batteries and lamps, etc.)

2. Process electronic devices by methods that do not generate residual materials exhibiting any hazardous waste characteristics and do not use heat, chemicals or water. (e.g. treatment methods that generate dust and require a baghouse do not qualify.)

Size reduction, crushing, cutting, sawing, compacting, shredding, etc. after removing batteries, lamps, and other universal wastes

Separation technology

Other treatment method that does not generate residuals exhibiting a hazardous waste characteristic and is not scrap metal or a universal waste. Please describe: Remove cords and other attachments

3. Electronic devices and/or residual printed circuit boards that are not scrap metal and do not qualify for management as universal waste product hazardous waste residuals because of any of the following treatment methods: §

Size reduction, crushing, cutting, sawing, compacting, shredding, etc. after removing batteries, lamps, and other universal wastes

Separation technology

Sampling, burning, or ball-milling of samples of electronic devices and/or treatment residues

Other treatment method that does not generate residuals exhibiting a hazardous waste characteristic and is not scrap metal or a universal waste. Please describe:

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Phase 1 Environmental Assessment

Required within one year of starting operations and includes:

- Facility information
- Facility history
- Facility Walk-through inspection
- Areas of concern
- Assessment checklist

Signature and certification

- owner, operator, or independent professional engineer, geologist, or an environmental assessor

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Engineer Certification – Lockers

Certify containment system

- A base under the containers which is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed;
- The base shall be sloped or the containment system shall be otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation, unless the containers are elevated or are otherwise protected from contact with accumulated liquids;
- The containment system shall have sufficient capacity to contain precipitation from at least a 24-hour, 25-year storm plus 10 % of the aggregate volume of all containers or the volume of the largest container, whichever is greater. Containers that do not contain free liquids need not be considered in this determination;

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Engineer Certification – Lockers

Certify containment system (con.)

- Run-on into the containment system shall be prevented unless the collection system has sufficient excess capacity in addition to that required in subsection (b)(3) of this section to contain any run-on which might enter the system; and
- Spilled or leaked waste and accumulated precipitation shall be removed from the sump or collection area in as timely a manner as is necessary to prevent overflow of the collection system. If the collected material is a hazardous waste under chapter 11 of this division, it shall be managed as a hazardous waste in accordance with all applicable requirements

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Engineer Certification – Lockers

Engineering certification provided by:

- a manufacturer,
- an **independent professional engineer registered in the State of California** or
- a professional engineer employed by the local government entity and from a different division or agency than the operator.

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Engineer Certification - Tanks

Independent, qualified, California-registered professional engineer certifies:

- Design/configuration
- Secondary containment
- External corrosion protection
- Spill prevention or overflow equipment.

Used oil and antifreeze tanks can be exempted for three years if Fire Marshall agrees

- See CalCUPA Guidance

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Hazardous Materials Business Plan

- Required for any facility *handling, at any time, any individual hazardous material in an aggregate amount equal to or greater than 55 gallons (liquids), 500 pounds (solids), or 200 cubic feet (gases).*
- Submittal to CUPA (Fee?)
 - <http://www.calcupa.net/>
 - <http://www.unidocs.org/hazmat/business-plan/index.html>

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CEQA and Land Use

- May contain restrictions on use of hazardous materials or hazardous wastes
- Verify zoning is appropriate
- Contact local planning agency
- Owner notice

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Operational Requirements



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Operational Requirements

- Public Education
- Operations Plan
- Training Requirements
- Personal protective equipment (PPE)
- Operational procedures
- Waste handling and classification
- Reuse/Material Exchange
- Facility Inspection

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Public Education

- Provide safety instructions to public
 - Legal transport amount
 - 5 gallons or 50 pounds
 - Agency can increase to 15 gallons and/or 125 lbs. with adequate public education programs to inform the public on proper techniques for packaging and transporting
 - Store in trunk
 - What about unknowns?
 - What's unacceptable?
 - Still need contingency

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Operations Plan

- Required by Title 22
- Foundation of operations
- Enforceable
- No set format
- Available for review by any agency with jurisdiction
- Handout

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Operations Plan

- Facility information
- Operational procedures
- “Waste Analysis Plan”
- Material Exchange Program Quality Assurance Plan
- Personal Protective Equipment
- Training
- Use and management of containers
- Personnel
- Inclement weather
- CESQG management

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Operations Plan (con.)

- Bulking protocol approved by local fire and air agency
- Agreement with property owner
- Agreement between operator and contractor
- Procedures whenever facility exceeds maximum storage
- Emergency Response Plan
- Record Keeping
- “Closure Plan”
- Copy CUPA Notification and Authorization
- Copy Financial Assurances

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Cal/OSHA Requirements– Title 8

- Safety and Health Plan
- Hazard Communication Program
- Medical Surveillance Program
- Decontamination Program
- New Technology Program
- Material Handling Program
- Training Program
- Emergency Response Plan

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Operations Plan Permanent vs. Temporary

Permanent

- Continuous base, free of cracks and Sufficiently impervious
- *(Plastic not required)*
- Not required to have a separate area for wastes to be transported off-site

Temporary

- All waste handling areas (with exception of traffic areas) must be covered with continuous plastic sheeting of at least 6 mil thickness
- Punctured or torn plastic must be repaired immediately

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Training Frequency

- Initial
- Refresher/Annual
- Periodic
 - Change in process or new chemicals
 - In response to incidents
 - New requirements
 - Interest



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Training Methods

- Annual Refresher
- Tailgate Safety
- On-the-job training
- On-line Courses
- Site Specific Requirements
- Equivalent documentation or certification of work experience or training



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Training Requirements

- HAZWOPER
- Universal Waste
- DOT Hazardous Materials Transportation
- Personal Protective Equipment
- Bloodborne pathogens
- Others

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HAZWOPER

- **Hazardous Waste Operations and Emergency Response**
- Federal 29 CFR §1910.120
- California Code of Regulations §5192
 - (D) HHW Operations
 - (E) Emergency response operations for releases of, or substantial threats of releases of, hazardous substances without regard to the location of the hazard.

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HHW Facility Personnel Training

- Initial training is 24 hours
- Annual refresher training is 8 hours
- Written certificate attesting that they have successfully completed the necessary training.
- Title 8, Section 5192, (p)(7)
- ***Temporary workers also need appropriate training***

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Household Hazardous Waste Training Matrix

Topic/Job Function/Activity	Hours	Frequency	OSHA 1910.120	California Code of Regulations	1. Safety	2. Health	3. Environment	4. Spill	5. Control	6. Storage	7. Disposal	8. Other	9. Other	10. Other	11. Other	12. Other
40 Hour	40 (8)	I, A														
24 Hour	24 (8)	I, A														
8 Hour	8 (8)	I, A														
3 Hour	3	1-3 years														
Respiratory Protection	1	I, A														
Hearing Conservation	1	A														
First aid	2	P														
CFR	2	P														
Fire Extinguisher	1	I, A														
PPE	1	I, A														
ESI awareness	2	I, A														
ERI Level 1	8	A														
ERI Level 2	8	A														
SPCC (1-1,320 gal)	1	I, A														
Leak	1	I, A														
CERT	0.5	I, A														
Bloodborne Pathogen	1	I, A														
Forklift	4	I, A														
Hoists	1	I, A														
Adhesives	1	I, A														
SWP	2	I, A														
Lock-out/Tag-out	0.5	I, A														
Ergonomics	1	P														

SAMPLE

A - Annual and Initial
 I - Initial
 P - Periodic, as needed
 Other Potential Topics:
 Aerosol, refrigeration, electrical safety, emergency administration plans, air safety, bonding and grounding, hot safety, machine guard training, fall protection, safety inspection

Personal Protective Equipment



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Why PPE is Used



Aerosol paint can exploded while cleaning bale

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Personal protective equipment (PPE)

- Administrative and engineering controls assessment required before issue PPE
- Training required
- PPE is a temporary barrier



Limitations of PPE

- Impairs mobility, vision, and communication
- Incompatible with other PPE
- Problems with mask fit
- Can cause physical and psychological stress
- Heat stress
- Hinders work performance
- Limits active work time

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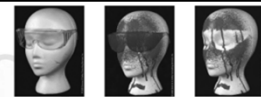
Safety Glasses

- Rated for impact
 - ANSI Z87 or Z94 (Canadian)



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Safety Glasses With Vented Side Shields (Impact Only)



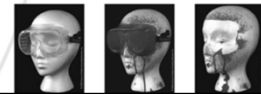
Safety Glasses With Nonvented Side Shields (Impact Only)



Visorgogs® (Impact Only)



Impact Safety Goggles (Impact Only)



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PPE – EYE & FACE PROTECTION

Commons causes of eye & face injury include:

- Flying objects & particles
 - Grinding, sanding, chiseling
- Toxic gases, vapors & chemical splashes
 - Testing of chemicals, opening containers
- Being struck by a swinging object
 - Overhead crane hoist, chains, cables

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PPE – EYE & FACE PROTECTION

Emergency Eyewash Station Requirements

Title 8, §5162

“Emergency eyewash facilities and deluge showers shall be in accessible locations that require no more than 10 seconds for the injured person to reach”

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Gloves

- Selection must match task
- Not all gloves equal even if same composition
- Leak rates vary

- NOTE - Remove before opening trunk

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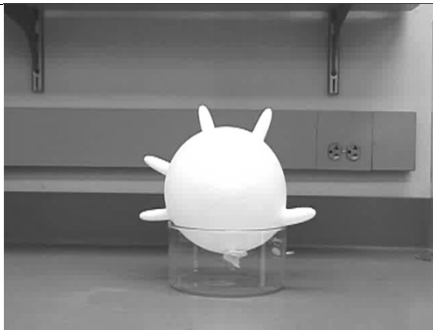
Glove Selection Chart

- 4 Excellent, breakthrough times generally greater than 8 hrs
- 3 Good, breakthrough times generally greater than 4 hrs
- 2 Fair, breakthrough times generally greater than 1 hr
- 1 Not Recommended, breakthrough times generally less than 1 hr
- ? Not tested or No information, check other references

	Natural Rubber	Neoprene	Butyl	PVC	Nitrile
Acetic acid	2	3	4	2	1
Benzene	1	1	1	1	1
PCB's	1	4	4	?	2
Hydrochloric acid <37%	3	3	4	3	3
Acetone	1	1	4	1	1
Hydrogen Peroxide	4	2	4	3	4

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Glove Test



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Respiratory Protection Program

- 29 CFR 1910.134, Title 8, Section 5194
- Written Program
- Qualified Program Administrator
- Training
- Medical Monitoring
- Fit Test
- Respirators

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Respiratory Protection

User Limitations To Obtain An Air-Tight Facial Fit

- Eyeglasses
- Facial Hair
- Impaired Facepiece Seal
- Medical Condition



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Eating, Drinking, & Smoking

- Eating and Drinking areas – 29 CFR 1910.120 (g)(2)
 - No employee shall be allowed to consume food or beverage in a toilet room nor in any area exposed to toxic material.
- Smoking at HHW's
 - Don't do it!

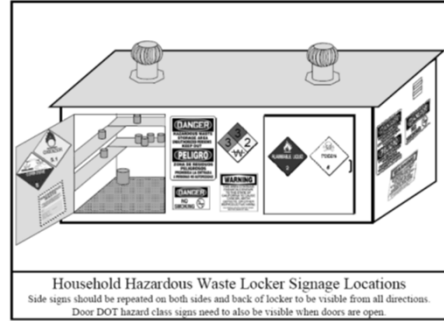
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Signage

- Visible from all approaches
- Legible from a distance of at least 25 feet.
- Language on the signs will be in English, Spanish and in any other language predominant in the area surrounding the facility



Facility Signage



Now Ready to Get to Work

Operational Procedures

- Entrance
- Receiving area
- Waste Handling area
- Labeling
- Packaging
- Bulking

- Carts

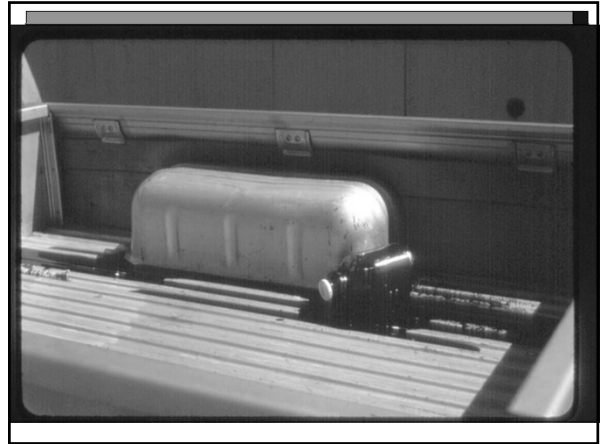
HOUSEHOLD
HAZARDOUS
WASTE DAY



COUNTY OF NAPA

One Type of Directional Sign







Oops!

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This is why HHW goes in the trunk

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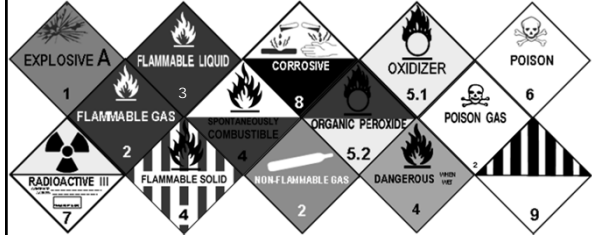
Waste Identification

- Sort into compatible hazard classes
 - Corrosive – acid
 - Corrosive – base
 - Neutral – Flammable, poison
 - Oxidizers – separate acid, base, and neutral
 - Others – e.g. water reactives,

109

DOT Label

- The various Department of Transportation (DOT) Labels for hazardous materials shipments look like this:



110

Common Signal Words for Oxidizers

Oxidizer Identification	
Store away from other materials	
Oxidizer Key Word Prefix or Suffix	Examples
-ate	Ammonium nitrate Potassium permanganate
-ite	Calcium hypochlorite
-peroxide	Methyl ethyl ketone peroxide
-peroxy	

111

Hazardous Wastes Label

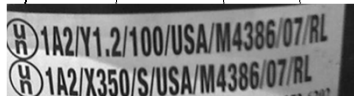
- Every container has:
 - “Hazardous Waste”
 - Composition and physical state
 - Hazardous property(ies)
 - e.g. Ignitable, reactive, corrosive
 - Name and address of generator
- Few exceptions

112

Package Certification

- United Nations marking or UN

Container type	Material	Covering	Packing Group	Weight limit	Physical State
1 = drum	A = steel	1 = closed	X = I,II,III	Decimal = specific gravity OR Kilograms (including drum)	L = Liquid
4 = box 6=composite	B = aluminum G = fiberboard H = plastic N = Metal	2 = open	Y = II,III Z = III		S = Solid



113

Electronics/CRT Differences


Electronic Devices	CRT	CRT Glass
Storage Label		
Universal Waste–Electronic Device(s)	Universal Waste–CRT(s)	Universal Waste–CRT Glass

SWEETSER & ASSOCIATES, INC.

114

Universal Waste Label

- Date required for first item in container

Universal Waste-	
<input type="checkbox"/> Battery(ies)	
<input type="checkbox"/> CRT(s)	
<input checked="" type="checkbox"/> CRT Glass	
<input checked="" type="checkbox"/> Electronic Device(s)	
<input type="checkbox"/> Lamp(s)	
<input type="checkbox"/> Mercury-containing Equipment	
Accumulation Date: 2/29/10	

Label - Used Oil

- “Used Oil”
- “Hazardous Waste”
- Accumulation Date
 - Shipment label not needed

HAZARDOUS WASTE	
FEDERAL LAW PROHIBITS IMPROPER DISPOSAL IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY AUTHORITY OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY	
CA WASTE NO. 221	EPA WASTE NO. N/A
DOT PROPER SHIPPING NAME: Non-RCRA Hazardous Waste Liquid	
UNSP399 NO. N/A	
GENERATOR NAME: Amersich, Inc.	
ADDRESS: 1978 Bad Stuff Lane	
CITY: Eureka, CA	
EPA ID NO.: CAH500123456	
PHYSICAL STATE	
<input checked="" type="checkbox"/> LIQUID	<input type="checkbox"/> SOLID
HAZARDOUS PROPERTIES	
<input type="checkbox"/> TOXIC	<input type="checkbox"/> FLAMMABLE
<input type="checkbox"/> CORROSIVE	<input type="checkbox"/> REACTIVE
WASTE ACCUMULATION & PICK UP	
DATE	
TIME	
INITIALS	
CONTENTS: USED OIL	
COMMENTS: USED OIL	
HAZARDOUS WASTE HANDLE WITH CARE	

Used Oil Filters

- “Drained used oil filters”
 - & Accumulation Date
- “Used oil and gasoline filters”
 - & Accumulation Date
- BTW – used oil filters are never “empty”

117

Special Permits – get a copy



118

Pick one?



119

???

NON-HAZARDOUS WASTE	
This waste is not regulated under 49CFR Part 261 transportation regulations.	
Generator - Epa Id CAH 111222333	Phone
Proper D.O.T. Shipping Name: UNIVERSAL WASTE ELECTRONIC DEVICE(S)	
Waste Category: Toxic	Order: Accumulation Date: 1/10
Prohibited for Recycle: Disposal	Manifest: Manufacture: Line#:
WCN: UNIVERSAL WASTE ELECTRONIC EQUIPMENT FOR RECYCLE	Hazardous Properties: Toxic Physical State: Solid


120

CAUTION

**Batteries,
Wet Filled with Acid**
Accumulation Date:

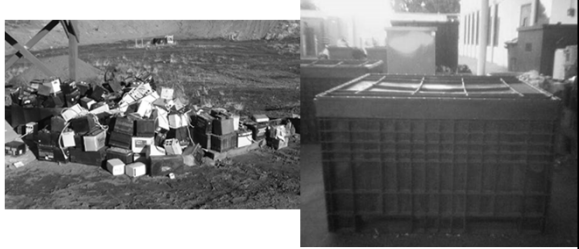
Lead Acid Batteries

- ❑ Lead-acid storage battery that are cracked, caps are missing, or otherwise damaged shall be stored and transported in a nonreactive, structurally secure, closed container capable of preventing the release of acid and lead. (Title 22, Section 66266.81)
- ❑ Keep away from alkaline batteries
- ❑ Transport 10 or fewer
 - No Bill of Lading


Pb
UN38.3
CORROSIVE LIQUID - ACID
Hazardous Waste Label - Batteries (UN38.3)
Hazardous Waste Label - Wet Filled with Acid (UN38.3)
Hazardous Waste Label - Lead (UN3027)
Hazardous Waste Label - Lead (UN3077)
Hazardous Waste Label - Lead (UN3093)
Hazardous Waste Label - Lead (UN3094)
Hazardous Waste Label - Lead (UN3095)
Hazardous Waste Label - Lead (UN3096)
Hazardous Waste Label - Lead (UN3097)
Hazardous Waste Label - Lead (UN3098)
Hazardous Waste Label - Lead (UN3099)
Hazardous Waste Label - Lead (UN3100)
Hazardous Waste Label - Lead (UN3101)
Hazardous Waste Label - Lead (UN3102)
Hazardous Waste Label - Lead (UN3103)
Hazardous Waste Label - Lead (UN3104)
Hazardous Waste Label - Lead (UN3105)
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Hazardous Waste Label - Lead (UN3107)
Hazardous Waste Label - Lead (UN3108)
Hazardous Waste Label - Lead (UN3109)
Hazardous Waste Label - Lead (UN3110)
Hazardous Waste Label - Lead (UN3111)
Hazardous Waste Label - Lead (UN3112)
Hazardous Waste Label - Lead (UN3113)
Hazardous Waste Label - Lead (UN3114)
Hazardous Waste Label - Lead (UN3115)
Hazardous Waste Label - Lead (UN3116)
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Hazardous Waste Label - Lead (UN3119)
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Hazardous Waste Label - Lead (UN3198)
Hazardous Waste Label - Lead (UN3199)
Hazardous Waste Label - Lead (UN3200)

121

Battery Storage



122

STATE OF CALIFORNIA
ENVIRONMENTAL PROTECTION AGENCY
DEPARTMENT OF TOXIC SUBSTANCES CONTROL

In the Matter of:

City of Glendale, California
Public Works Department
Integrated Waste Management
Division
548 W. Chevy Chase Drive
Glendale, California 91204-1814

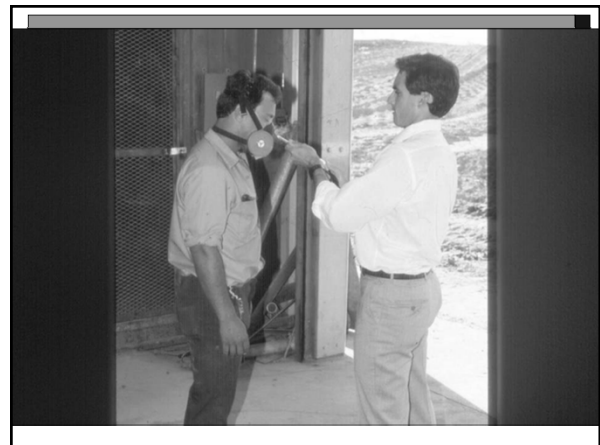
ID No. CF100000002

Docket HWCA 20071363

CONSENT ORDER
Health and Safety Code
Section 25187

- ❑ \$13,000 Penalty
- ❑ Failure to immediately clean up and contain
- ❑ Manage residue
- ❑ Lack training

123





Post- Bulking Exercise

Flammable Paint Storage Container, Interior



“Empty” means:

- No hazardous material can be poured or drained ... when the container or inner liner is held in any orientation (e.g., tilted, inverted, etc.)
- No hazardous material remains in or on the container that can feasibly be removed by physical methods (A thin uniform layer or dried material or powder is considered acceptable)
- Emptied household hazardous material and pesticide container, of five gallon or less in capacity
(Not including used oil filters and PCB containers)
- A compressed gas cylinder is exempt from regulation ... when the pressure in the container approaches atmospheric pressure.
- Aerosol containers are exempt from regulation ... if the aerosol container was emptied of the contents and propellant to the maximum extent practical under normal use

CCR Title 22, §66261.7. Contaminated Containers. 132



Toxic Solid ?

9/26/08

136

Hazardous Waste ??

12/20/08

137

Reuse/Material Exchange

- The public agency operating a HHW program shall
 - Determine which reusable household hazardous products or materials are suitable and acceptable for distribution to the public in accordance with a quality assurance plan prepared by the public agency.
 - Instruct the recipient to use the product in a manner consistent with the instructions on the label.
- Business or employer recipient shall be responsible for obtaining MSDS
- HSC 25218.12.

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Waste Reuse/Exchange

- No recalled, canceled or suspended materials
- Inspect containers for integrity and contents
- Sign form/liability
- May charge fee
- Track amounts
- Limit access?



Pool Chemicals for Reuse



140

Facility Inspection

- Temporary
- Permanent

PERMIT BY RULE TEMPORARY HOUSEHOLD HAZARDOUS WASTE COLLECTION FACILITY INSPECTION CHECKLIST		PERMIT BY RULE PERMANENT HOUSEHOLD HAZARDOUS WASTE COLLECTION FACILITY INSPECTION CHECKLIST	
Collection Facility Name _____	EPA ID No. - CMI _____	Collection Facility Name _____	EPA ID# - CMI _____
Collection Address _____	_____	Collection Facility Address _____	_____
City _____	Zip Code _____	City _____	Zip Code _____
Sponor Agency _____	Contact Person _____	Sponor Agency _____	Contact Person _____
Sponor Agency Contact Person _____	Phone _____	Sponor Agency Contact Person _____	Phone _____
Contractor Name _____	_____	Contractor Name _____	_____
Contractor Contact Person _____	Phone _____	Contractor Contact Person _____	Phone _____
Date Inspected _____	Inspection Agency _____	Date Inspected _____	Inspection Agency _____
Lead Inspector _____	Phone _____	Lead Inspector _____	Phone _____
INDEX		INDEX	
A. SUBMITTALS _____	Page _____	A. SUBMITTALS _____	PAGE _____
B. DOCUMENTATION REQUIREMENTS _____	_____	B. DOCUMENTATION REQUIREMENTS _____	_____
C. CERIGO WASTE ACCEPTED AT FACILITY _____	_____	C. DOCUMENTATION REQUIREMENTS _____	_____
D. CERIGO WASTE ACCEPTED AT FACILITY _____	_____	D. CERIGO WASTE ACCEPTED _____	_____
E. WALKTHROUGH OBSERVATIONS _____	_____	E. WALKTHROUGH OBSERVATIONS _____	_____

Inspection

- Inspect area and drums weekly
- Maintain written inspection log
 - Name of the inspector.
 - Date of the inspection.
 - Condition of all waste containers.
 - Description of any problem noted during the inspection and action taken to fix it.



142

Facility Inspections



Safety shower inspection frequency - OSHA 0, ANSI weekly
Fire extinguisher monthly

143

Containers, Drums

- Containers must have tight-fitting lids that are
- Kept closed except when wastes are being added or removed.
 - Funnel must be removed or be equipped with a valve or cover to prevent leakage if drum turned over.
- DOT Certified for Hazardous Wastes
- Inspected weekly



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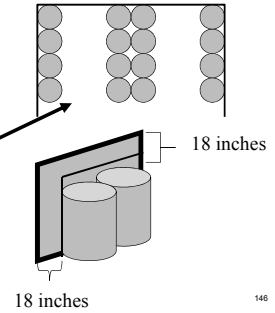
Container Storage

- Containers closed when not in use
- Container compatible with waste liner allowed
 - e.g. plastic liner with alkaline batteries
- Containers holding ignitable or reactive waste shall be located at least 15 meters (50 feet) from the facility's property line

145

Container Storage

- Aisle space not specified
- Labels must be visible
- Able to inspect container for leakage
 - Typically 24 to 48 inches
- Separation wall
 - 18 inches top
 - 18 inches front



146

Drum Closure

- Close drum using torque wrench
 - Rings bolt and bungs
- Performance test to prevent leakage
- Drum supplier provides instructions
- Train workers on use
- Use calibrated torque wrench
- Get updates instructions annually
- Reject containers that do not properly close
- 49 CFR §178.2 (c)



Aboveground Storage Tanks

- Inspect daily
 - No apparent structural defects, or deterioration
 - No severe rusting,
 - No leaking
 - Correct label
- Certification
- Inspection under CUPA Authority



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Inspection – How Many Issues?

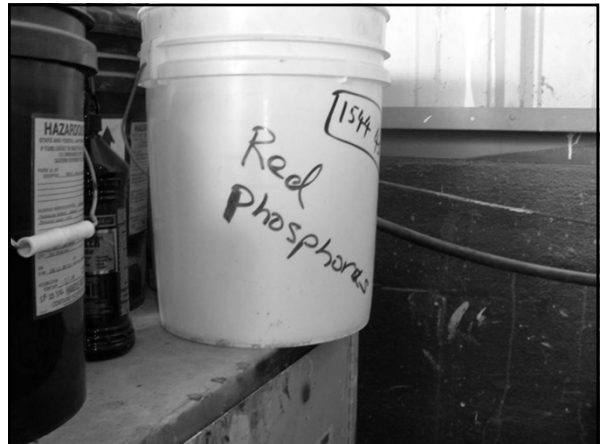
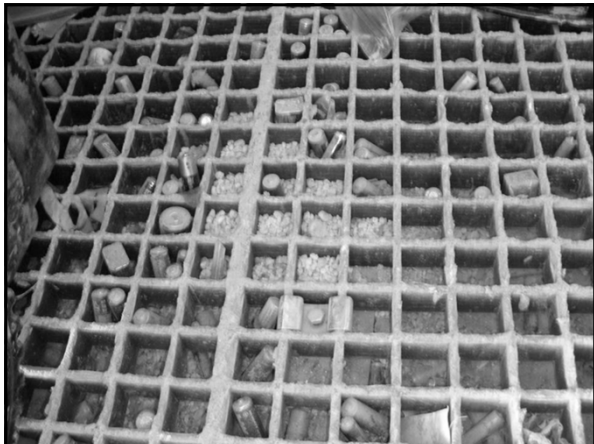


149

Signage

- Visible from all approaches
- Legible from a distance of at least 25 feet.
- Language on the signs will be in English, Spanish and in any other language predominant in the area surrounding the facility







Do You Know Where Your Waste Goes

162

Uniform Hazardous Waste Manifest

- Cradle-to-Grave Tracking
- U.S. DOT Shipping Paper
- Emergency Usage
- Tracking/Revenue
- Enforcement/Compliance
- Liability

Generator Certification

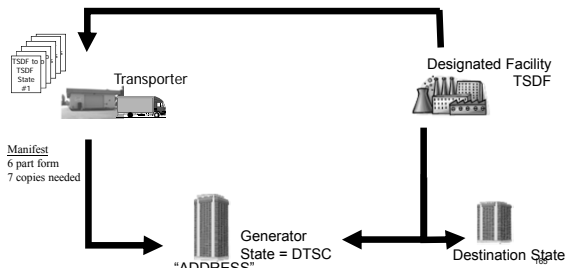
- “I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.”

164

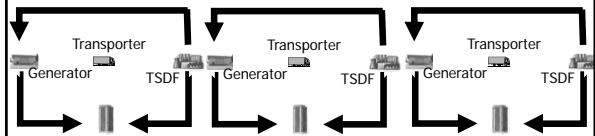
Manifest Tracking Flow

Gen
Copy
#1 for
DTSC

If not received in 35 days,
10 days before discrepancy letter needed



Multiple Facility



NOTE: Generator retains liability for final disposal or treatment even if original manifest does not identify site.

166

Code	Description	Reclamation and Recovery
H010	Metals recovery including retorting, smelting, chemicals, etc.	
H020	Solvents recovery	
K039	Other recovery or reclamation for reuse including acid regeneration, organics recovery, etc.	
H060	Energy recovery at this site—use as fuel—includes on-site fuel blending	
H061	Fuel blending prior to energy recovery at another site	
Destruction or Treatment prior to Disposal at Another Site		
H040	Incineration—thermal destruction other than use as a fuel	
H071	Chemical reduction with or without precipitation	
H073	Cyanide destruction with or without precipitation	
K075	Chemical oxidation	
H076	Wet air oxidation	
H077	Other chemical precipitation with or without pre-treatment	
H081	Biological treatment with or without precipitation	
H082	Absorption	
H083	Air or steam stripping	
H101	Sludge treatment and/or dewatering	
H103	Absorption	
H111	Stabilization or chemical fixation prior to disposal at another site	
H112	Macro-encapsulation prior to disposal at another site	
H121	Neutralization only	
H122	Evaporation	
H123	Settling or clarification	
H124	Phase separation	
H129	Other treatment	
Disposal		
H131	Land treatment or application (to include on-site treatment and/or stabilization)	
H132	Landfill or surface impoundment that will be closed as landfill (to include on-site treatment and/or stabilization)	
H134	Deepwell or underground injection (with or without treatment)	
H135	Discharge to sewer/POTW or NPDES (with prior storage—with or without treatment)	
Storage and Transfer		
H141	Storage, bulking, and/or transfer off site—no treatment/recovery (H010-H129), fuel blending (H061), or disposal (H131-H135) at this site	

Bill of Lading

- Common for lower hazard “materials” or wastes
 - E-waste
 - Propane
- Similar generator (shipper) certification

168

Hazardous Waste Treatment, Storage, and Disposal Sites

▲ Your waste goes here

The map shows the United States with numerous triangles indicating hazardous waste treatment, storage, and disposal sites. A label 'Your Facility' points to a triangle in California. The text '▲ Your waste goes here' is positioned above the map.

A man in a cap and uniform is holding a badge that reads 'CUPA INSPECTOR'. Below the badge, it says 'THEY'LL GIVE ANYONE A BADGE.' At the bottom of the image, it reads '13th Annual California Certified Unified Program Agency Conference'.

Due Diligence

- Staff trained
- Contractor qualified
- Contracts
- Recycling/disposal facility compliance
- CERCLA (Superfund) liability

Record Keeping

- Permits/approvals
- Shipping records
- Inspection records
- Training records
- Incident log/records
- Available for inspection

Record Retention

- Regulatory
 - Incidents – 3 years
 - Manifests – 3 years
 - HazMat Bill of Lading – 2 years
- Reality
 - Forever

Review

- Review operations
- Review records
 - Shipping records
 - Training records
 - Inspection records
 - Permits and approvals

Resources

- HHWIE
- DTSC
- NAHMMA
- Web Sites

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Questions



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