

# *Hazardous Waste Handling Certification*

**San Joaquin  
Delta College**

**Revised: 10/01/13**



# Introduction

- Historically hazardous wastes were not regulated.
  - This resulted in many environmental health and safety problems such as:
    - Love Canal
    - Times Beach
    - Hunters Point Navel Shipyard



# REGULATORY OVERVIEW



# Federal Environmental Protection Agency (EPA)

- Resource Conservation and Recovery Act (RCRA) of 1976
- RCRA regulates hazardous wastes from the point of generation to the point of disposal
  - This has been called the “Cradle to Grave” management approach
  - Was amended to designate California only regulated wastes (Non-RCRA waste)



# RCRA

- RCRA applies to anyone who:

- Generates
- Stores
- Transports
- Treats, or
- Disposes of

hazardous waste



# California Environmental Protection Agency (CAL/EPA)

## – Department of Toxic Substance Control (DTSC)

- given the responsibility to enforce the environmental regulations under Title 22 of the California Code of Regulations



## – Certified Unified Program Agencies (CUPA)

- delegated the responsibility for the enforcement of Cal/EPA regulations. Enforcement is dependent on the county that the generator is located in and it's respective District Attorney



# CUPA Programs

- The six programs enforced by CUPA's are:
  1. Hazardous Waste Generators and Onsite Treatment
  2. Underground Storage Tanks (UST)
  3. Above Ground Tanks (Spill Prevention Countermeasure Control Plan)
  4. Hazardous Material Release Response Plans and Inventories
  5. Risk Management and Prevention Program (RMPP)
  6. Hazardous Materials Management Plans and Inventories (HMMP)



# CUPA Agency Inspections

- The CUPA is required to inspect all hazardous waste generators on a periodic basis.
- During the inspection the inspector may request to:
  - Review documents such as:
    - Manifests
    - Contingency plan
    - Training records
    - Inspection records
  - Interview employees
  - Inspect the operations and waste storage area





# CUPA VIOLATIONS

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The most common violations cited are:

- Improper labeling of Hazardous Waste
- Failure to retain records (3 yrs)
- Failure to notify CUPA within 30 days of any changes to business / waste
- Improper storage of empty containers



# **HAZARDOUS WASTE MANAGEMENT**



# Waste Management

- **To effectively manage hazardous waste:**
  - Determine if it's a Hazardous Waste
  - Profile the Hazardous Waste
  - Obtain Permits and ID number
  - Accumulate the Hazardous Waste
  - Label Waste
  - Follow Container Requirements
  - Inspect waste
  - Document Shipments
  - Develop Contingency Plan
  - Train Employees



# Waste Determination

- Step 1 - determine if you are generating a waste



A material becomes waste when it can no longer be used for its intended purposes

- New materials or expired chemicals may be considered waste.
- Recycled materials are also usually considered waste.



# Hazardous Waste Determination

- Step 2 – If a waste, then determine if it is hazardous.
  - A waste material may be considered hazardous if due to it's:
    - quantity
    - concentration
    - or physical, chemical or infectious characteristics it may:
      - Cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness.
      - Pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, disposed of or otherwise managed.



# Listed Wastes

- The following wastes ARE considered hazardous:
  - Wastes that are on the RCRA or California Only hazardous waste list.
  - A waste is a "listed waste" if it appears on the list of materials in:
    - Section 261, Subpart D of 40 CFR or in
    - Section 66261 of Title 22 of the California Code of Regulations (CCR)



# Characteristic Waste

- **“Ignitability”** refers to:
  - the capability of being set afire, or of bursting into flame spontaneously, or by interaction with another substance.
- **“Reactivity”** means:
  - having properties of explosivity or chemical activity that can be a health or environmental hazard.
- **“Corrosivity”** is the capability:
  - to destroy living tissue or steel surfaces by chemical action.
- **“Toxicity”** means:
  - a waste has been shown to pose a hazard to human health or the environment.



# Profile Hazardous Waste

- *Step 3 - Each type of hazardous waste generated by a Generator is called a waste stream.*

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– A Hazardous Waste Profile is required for each stream.

– Each waste stream must be collected separately, a process called “accumulation”







# Permits & ID Number

- Step 4 - EPA ID numbers must be obtained by all parties including the:
  - Waste Generator
  - Waste Transporter
  - Treatment Storage and Disposal (TSD) Facilities
- In addition, the State of California issues tax identification numbers to generators and requires that taxes be paid for the annual tonnage of the hazardous waste generated



# Waste Accumulation

- Step 5 - waste accumulation practices. Three types of accumulation are usually allowed:



1. TSD accumulation per part B permit
2. 90-day waste accumulation
3. Satellite accumulation



# TSD Accumulation

- Delta College is not allowed to treat it's waste or store it longer than 90 days unless it obtains a Part B permit
- Delta College is not allowed to accept hazardous waste from other generators or from off-site
  - Donations that contain possible hazardous materials need to be reviewed by the Program Director prior to acceptance





# 90 Day Accumulation

- At Delta College: the waste located at the Hazardous Waste Storage Cage:
  - May be accumulated for up to 90 days from the first drop of waste being placed in the container per waste stream
    - *A 55-gallon waste container which is only half-way full at the end of the ninety day period, would have to be removed and sent for disposal even though the container had not reached full capacity*



# Satellite Accumulation

- Points of waste generation and accumulation locations (shops/classrooms).



- May accumulate up to one year - per waste stream
  - Up to 55 gallons of hazardous wastes and/or one quart of acutely or extremely hazardous wastes. The accumulation point must be “at or near the area where the waste is generated”
- Wastes must be accumulated “under the control of the operator of the process generating the waste”
- Satellite waste containers have to be labeled with the initial date of waste accumulation



# Hazardous Waste Labeling

- Step 6 - Waste Accumulation Containers must be labeled or marked clearly and visibly with the:
  - Generator's Name and Address
  - Date when accumulation began
  - Words "Hazardous Waste"
  - Composition and physical state of the waste
  - Hazardous properties such as; flammability or reactivity
  - Markings which state:
    - State and Federal Law Prohibits Improper Disposal
    - Manifest Document Number (added by the transporter)





# Container Requirements

- Step 7 – Container's must be compatible with the wastes being accumulated, typically;
  - Metal containers for flammable waste
  - Plastic drums for corrosive waste
  - Closed top drums for liquid waste
  - Open top drums for solids



# Container Requirements

- The container must always be:
  - Kept in good condition
  - Closed during transfer and storage
  - Properly labeled
  - Grounded if ignitable waste is stored





# Empty Containers

- Empty containers may be **labeled “EMPTY”** and thrown into the dumpster if all of the following conditions are met:
  - All accessible residual has been removed,
  - Did not previously hold an acutely hazardous or extremely hazardous material,
  - Is five gallons or less and is not an aerosol,
  - Was not made of wood, cardboard or paper, and
  - Is not recyclable or returnable.



**Containers not meeting the above criteria must be managed as hazardous waste.**



# Empty Containers

- Empty containers may be re-used to accumulate compatible waste if:
  - In good condition and in working order
  - Is not marked as a “Single Trip” container
  - All previous markings and labels have been removed
- Return all non-leaking returnable containers to the supplier as soon as practical



# Aerosol Cans

- Aerosol cans must be completely discharged, nozzle removed, and cap replaced
  - Aerosol cans cannot be thrown into the regular trash
  - Segregate aerosol cans containing ozone depleting substances (ODS) from non-ODS (e.g. non-CFC) substances



# Incompatible Wastes

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- Incompatible wastes must not be placed in the same container
  - Example: Acids and bases
  - Wastes must not be placed in an unwashed container that previously held an incompatible material
- Incompatible wastes stored near each other must be separated by a dike, berm, wall or other device





# Secondary Containment

- The CUPA requires secondary containment for hazardous waste containers

- This requires containment for 110% of the largest container or 10% of the total volume of all containers, whichever is greater
- Containment should be protected from rainfall or sized to contain 24 hours of rainfall
- Containers must be placed completely inside the secondary containment





# Inspections

- **Step 8 - Weekly Inspections** should be made to detect:
  - Containers; damaged or leaking
  - Improper labeling
  - Date of accumulation exceeding allowable days
  - Incompatibles stored together
  - Containers outside of secondary containment
  - Secondary containment not clean and dry
  - Inadequate aisle space
  - Blocked emergency equipment



# Waste Shipment

- Step 9 - In order to remove hazardous waste from the site, it must be:
  - Sampled
  - Profiled, and
  - Manifested



# Waste Recycle / Disposal

- Hazardous waste that is regularly shipped off for recycling or disposal can be profiled to reduce sampling and analysis costs.

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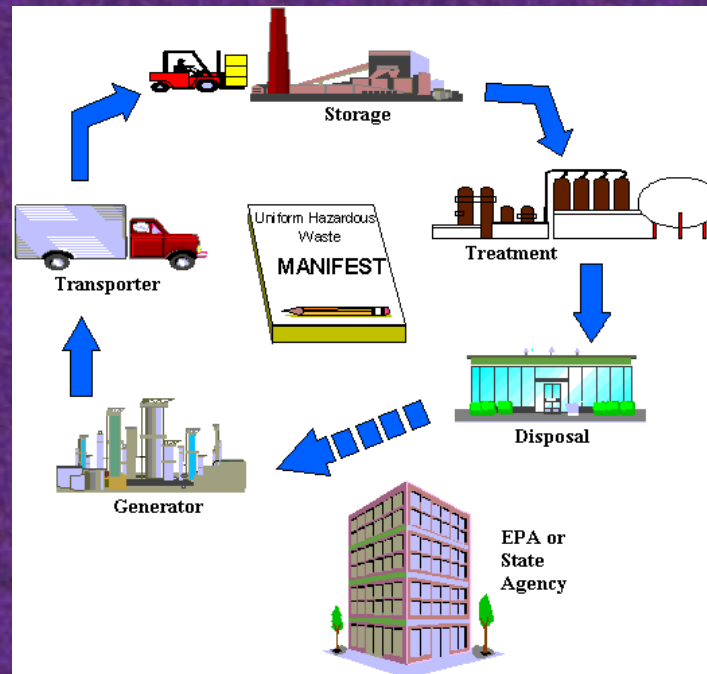
- Hazardous waste is usually shipped to the following type of facilities:
  - Landfill
  - Incinerator
  - Fuel Blending
  - Treatment (Neutralization)
  - Recycling





# Manifesting

- The Hazardous Waste Manifest is a tracking document used to follow hazardous wastes from the point of generation, through transportation to the final; treatment, storage and disposal.





# Waste Minimization

- The environmental impacts of new chemicals should be considered as chemicals with lower toxicity represent:
  - A reduced risk to the health of employees and the environment
  - A possible reduction in personal protective equipment and engineering controls
  - Lower taxes and disposal costs



# Land Ban

- In May of 1985, EPA began banning land disposal of all liquid hazardous wastes
- The ultimate goal of the “land ban” was to prohibit the land disposal of all specified untreated liquid wastes by August 1990 (to date, this goal has not been reached)



# Contingency Plan

- Step 10 - The following information must be included:
  - Actions to respond to an emergency from any release of hazardous waste to air, soil, or surface water”
  - Arrangements agreed to by local emergency response teams to coordinate emergency response efforts
  - Contact list of emergency coordinators
  - A list of emergency response equipment and it’s location
  - An evacuation plan which should include signals to be used and evacuation routes



# Training

- Step 11 - Any employee generating, storing, or handling hazardous waste is required to receive training to ensure that they are familiar with the:

- Regulatory requirements

- Overview
- Enforcement
- CUPA

- Waste Management

- Determination
- Characterization
- Profiling
- Accumulation
- Labeling
- Containers
- Secondary Containment
- Incompatible Waste
- Inspections
- Shipment
- Land Ban
- Universal & Medical Waste



# Training

## – Contingency plan

- Emergency procedures
- Emergency equipment and systems
- Emergency equipment inspection procedure
- Shut off systems and shutdown procedures
- Communication and alarm systems



- Annual refresher training is required



# **MEDICAL AND UNIVERSAL WASTE**



# Medical Waste

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- Medical waste is regulated differently than regular hazardous waste
  - San Joaquin County requires a medical waste permit to generate medical waste on a regular basis





# Universal Waste

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- Universal waste is divided into 3 categories:
  - Thermostats containing mercury switches
  - Batteries
  - Lamps



- As of February 2006 even small quantity universal waste generators and households are required to handle universal wastes according to the new regulations



# Universal Waste

- Small quantity generators:
  - Do not accumulate more than 11,000 pounds of total universal wastes at any one time
    - Can accumulate and store universal waste for up to one year
    - Must label universal wastes with the date that they are generated
    - Must train employees in proper management of universal waste
    - Must prepare proper shipping papers
    - Are not required to track or keep records of shipments of universal waste

<b>UNIVERSAL WASTE</b>
CONTENTS _____
ACCUMULATION START DATE _____
SHIPPER _____
ADDRESS _____
CITY, STATE, ZIP _____



# Universal Waste

- In addition to the previous requirements large quantity generators:
  - Hold 11,000 pounds or more of total universal waste at any one time
    - Are required to notify the EPA and obtain a hazardous waste Identification number before the total amount of universal waste onsite exceeds 11,000 pounds.
    - Must only ship UHW to another universal waste handler, an authorized hazardous waste disposal site, or an authorized hazardous waste recycler.
    - Must keep records of shipments both received and shipped offsite for at least three years.



# QUIZ

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