



Annual RCRA Hazardous Waste Awareness Training Program



Federal and State Regulations

- EPA and the NJDEP have implemented:
- Regulations for identification of wastes.
- Performance standards for generators.
- Hazardous waste facility permit program.
- Mandated annual training for employees who handle, process or may regularly be exposed to hazardous waste.



Training Objectives

- Understand types of waste generators.
- Define hazardous wastes.
- Describe proper handling and storage of hazardous waste.
- Select proper waste containers.
- Label and mark waste containers.
- Complete paperwork for waste shipment.
- Response to emergencies.



Types of Generators

- Large quantity –generates >1000kg(2205 lbs) in any month.
- Small quantity * - generates <1000kg(2205 lbs) in any calendar month (approx 5 drums) or < 1kg (2.2 lbs)of acutely toxic waste.
- Never accumulates >6000kg (13,227 lbs) on site.

* We are a Small Quantity Generator.

What is a hazardous waste?

- A solid waste (or liquid), or combination of solid wastes, which because of its quantity, concentration, or physical or chemical characteristics may:
- Cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or
- Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Types of hazardous waste

Characteristic Waste

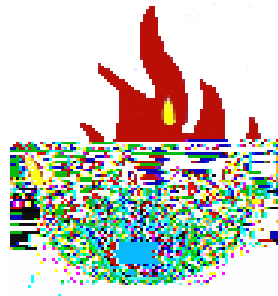
- Ignitable – easily combustible/flammable, flash point < 140 F.
- Corrosive - pH 2.0 or less; 12.5 or more.
- Reactive – unstable or reacts violently with water or other materials.
- Toxic – if extract has heavy metals, pesticides.
- Listed Wastes – automatically hazardous if it is named on RCRA list (>400 chemicals).

Ignitable Hazardous Waste

D001



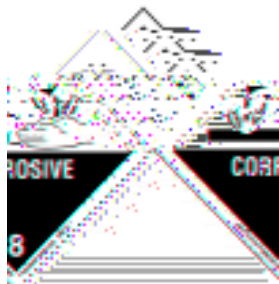
A liquid waste which has a flash point of less than or equal to 140 degrees F (60 degrees C) as determined by an approved test method.
(solvents, paint thinners, gasoline)



Corrosive Hazardous Waste D002



An liquid waste with a pH of less than or equal to 2 or greater than or equal to 12.5 and that destroys human tissue or corrodes steel is considered to be a corrosive hazardous waste. (acids - battery acid, bases - caustic cleaning compounds).



Toxic Hazardous Waste D004 thru D042



A waste that contains certain substances determined to be harmful at or in excess of the maximum concentration. Some of those substances include heavy metals such as lead, arsenic, mercury, cadmium, chromium, mercury and silver. Others include solvents such as benzene, methyl ethyl ketone and chloroform. Others include pesticides such as chlordane, cresol and lindane.

Each substance has it's own waste code (D004 – arsenic; D008-lead,etc).



Listed Hazardous Waste

F, P, U Codes

- Discarded commercial chemical products, off-specification products, spill residues thereof.
- Acutely Hazardous wastes- these are so hazardous (certain pesticides, cyanides) that the generation of greater than 2.2 lbs of waste at one time would be enough to categorize the college as a Large Quantity Generator.



RSC waste

- RSC is a small quantity generator (SQG).
- A waste is not a waste until RSC makes the determination that we cannot use it.
- RSC, as a SQG, has 180 days to dispose of the waste.
- Majority of hazardous waste is generated in our laboratories. Also generated by Plant, Print Shop and Arts and Humanities. Other areas can also generate hazardous wastes.

Containers

Residue in Containers

Drums, Buckets, Jars

- A container that held a hazardous material or waste is not empty and cannot be put in the trash unless:
- all material has been removed using practices commonly employed industry-wide to remove wastes from containers or liners, such as pouring, pumping, aspirating, and draining, and

Residue in Containers

Gases and Poisons

GASES

- Containers holding compressed gases (aerosol cans, cylinders) are not considered empty until the pressure in the container approaches atmospheric pressure. Since even an “empty” aerosol can will still contain some flammable propellant within it, the can cannot be thrown into the garbage.

POISONS OR ACUTELY HAZARDOUS WASTE

- A container that held a listed pesticide or acutely hazardous waste (P-listed waste) cannot be thrown in the trash unless the the container has been triple rinsed with a solvent appropriate for removing the poison or acutely hazardous waste.

Labeling

- While being accumulated on-site, each container and tank is labeled or marked clearly with the words, "Hazardous Waste"; and with other words that identify the contents of the containers.
- The date upon which each period of accumulation begins is clearly marked
- Label clearly visible for inspection on each container

Waste Labeling Accumulation On Site

| Hazardous Waste | | | |
|-----------------|------------|-------------|------------|
| Chemical | Name | Approximate | % |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| Course: _____ | | | |
| Fill Start | Date _____ | Fill End | Date _____ |

Typical labels –
Printed on site or
purchased commercially

Waste Labeling

Pre-Transport Off Site



Satellite Accumulation

- The total volume of all the containers must not exceed a maximum of 55 gallons.
- Marked as **Hazardous Waste** and appropriate hazard warning – flammable, etc. and have an accumulation start date. Once container is full, the date is entered on the label as the Accumulation Start Date.
- Keep closed at all times when not actively adding waste to container.
- The stored waste must be inspected weekly for damage and leaks.

Contingency Plan

- At all times there must be at least one employee either on the premises or on call (i.e.,

Contingency Plan

- The generator must ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures, relevant to their responsibilities during normal facility operations and emergencies;
- The emergency coordinator (CampusPolice), or their designee must respond to any

Emergency Response

- The college must ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures, relevant to their responsibilities during normal facility operations and emergencies. College personnel can only respond to an “**Incidental Release**” once familiar with the material’s MSDS, and the proper PPE that must be worn.



Emergency Response

SPILL or LEAK

- Any individual causing or discovering a spill, leak, or situation that may lead to a spill will immediately take the following action.
- REPORT the spill immediately to the **Campus Police** by calling 911 from a college telephone or 609-652-4444 from an outside phone.
- ISOLATE the spill area. PASS THE WORD and ALERT those people in adjacent areas. Direct people away from the spill area. Evacuate the area.
- Do not attempt to clean the leak or spill. Clean up efforts will be directed by the Emergency Coordinator.
- The Emergency Coordinator, or their designee, will first identify the hazardous and physical properties of the leak or spill based on a review of the materials MSDS to determine the proper personal protective equipment that must be worn to take defensive and offensive containment and clean-up procedures.
- The Emergency Coordinator will initiate defensive measures to contain the flow of hazardous waste to the extent possible through the use of absorbents, pads and pigs contained in spill kits kept at strategic locations throughout the college. The construction of dikes or dams may be required to prevent the spill from entering drains, catch basins, soil and surface water.

Emergency Response

SPILL or LEAK

- Offensive measures will be initiated to absorb or neutralize the contained spill material with appropriate material that is compatible with the waste (do not use organic materials for cleaning up oxidizers or strong acids as the absorbent material may ignite).
- The clean-up residue must be collected with non-sparking tools and placed in a sealable clean container which is compatible with waste that will be placed in it (the waste will not melt or corrode the container).
- The container must be immediately labeled with a hazardous waste label and the accumulation start date is filled in on the label.
- The

Reporting Incidents

- In the event of a fire, explosion, or other release which could threaten human health outside the facility, or when the generator has knowledge that a spill has reached surface water or soil, the generator must immediately notify the NJDEPman

Waste Transport & Disposal



Waste Minimization

- Waste minimization is any action that reduces the amount and/or toxicity of chemical wastes that must be **shipped offsite** for disposal as hazardous waste. It is incumbent upon every member of the Stockton community to be aware of the environmental and financial impacts of hazardous chemical waste, and to actively seek to minimize the volume of hazardous waste that is generated.
- The USEPA estimates that 50% of the chemical waste generated at facilities consists of unused chemicals. As a result, RSC encourages departments/laboratories to purchase chemicals only in amounts that will be used within the budget year.
- Apply all the chemicals for their intended purpose.
- When purchasing material substitute non-hazardous materials for hazardous pplyyu

UniversalWaste

- waste lamps- fluorescent, high intensity discharge, neon, mercury vapor, high pressure sodium, and metal halide lamps
- consumer electronics include, but are not limited to, computers, printers, copiers, tele-facsimiles, VCRs, stereos, televisions, and telecommunication devices
- mercury containing devices – thermostats
- ballasts
- pesticides
- batteries
- oil based finishes – oil based paints, lacquers, stains, aerosol paint cans



Universal Waste Labels

- Place the universal waste in a container and mark or label the container with the earliest date that any universal waste in the container became a waste or was received.
- Mark or label each individual item of universal waste (e.g., each battery or thermostat) with the date it became a waste or was received.



Assistance

- Please feel free to contact me for any questions that you may have regarding your particular needs.

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