



SOUTH ORANGE COUNTY COMMUNITY COLLEGE DISTRICT  
SADDLEBACK COLLEGE ♦ IRVINE VALLEY COLLEGE ♦ ATEP

# SOCCCD

## Waste Management Program

Office of Risk Management  
District Business Services  
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# SOUTH ORANGE COUNTY COMMUNITY COLLEGE DISTRICT WASTE MANAGEMENT PROGRAM

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# SOUTH ORANGE COUNTY COMMUNITY COLLEGE DISTRICT WASTE MANAGEMENT PROGRAM

## I. Purpose

The Waste Management Program at South Orange County Community College District is intended to be a comprehensive strategy that strives to find the best practices for handling, storing, and disposing of hazardous and non-hazardous waste, while assuring compliance with all Federal, State and local regulations.

## II. Scope

This program applies to all areas within the South Orange County Community College District (District) where any person whose act or process produces waste or causes a hazardous waste to become subject to regulation.

## III. Responsibility

The South Orange County Community College District (District) is responsible for this program and its work areas. The colleges (Irvine Valley College, Saddleback College) have the authority to make decisions to ensure the success of the program. All District employees are responsible to halt any activities where danger is perceived to any individuals in a location or work area within the District where waste handling, storage, or disposal activities is present. All questions regarding Waste requirements should be directed to the Office of Risk Management (RM) in District Business Services.

### A. Supervisors

Supervisors are responsible for implementing the Waste Management Program at the local operational level and ensuring the safe use of hazardous substances for all areas under their supervision. Responsibilities include:

1. Identifying hazardous waste present in the work area.
2. Ensuring an inventory list of hazardous substances is maintained in each work area.
3. Ensuring hazardous waste are appropriately labeled.
4. Ensuring Safety Data Sheets (SDSs) are available to employees.
5. Ensuring employees are trained and receive annual refresher training on Hazard Communication and on physical hazards, health hazards, safe handling procedures, and emergency procedures for hazardous substances used in the work area.
6. Ensuring that employees follow established safety procedures.
7. Adequately informing personnel of the hazardous substances to which they may be exposed while performing their work.
8. Maintaining a copy of this written program available in the workplace. The program is also available online at SharePoint.

### B. Employees

Employees are responsible for:

1. Knowing the hazards and precautionary procedures for the hazardous substances used in their work area, which includes reviewing the SDS for each hazardous substance used.
2. Completing Hazard Communication training and job-specific training before working with hazardous substances.

3. Completing refresher training on hazard communication, waste handling, and other job-specific topics on an annual basis.
4. Planning and conducting operations in accordance with established procedures and good safety practices.
5. Using personal protective equipment and clothing in accordance with prescribed training.
6. Notifying the supervisor of any hazardous or chemical spills immediately.

### C. Waste Generators

In order to prevent injuries and minimize environmental hazards, all waste must be handled and disposed of properly. Each person handling hazardous chemicals is responsible for the proper accumulation and management of waste in the work, class or lab area. Generators of hazardous and non-hazardous waste are responsible for the following:

1. Labeling of hazardous waste.
2. Proper storage of hazardous waste.
3. Transportation of waste to a pick-up location or scheduling a special pick-up.
4. Scheduling work area, classroom and/or lab room cleanouts as required.
5. Coordinating the disposal of all waste from their work area, classroom and/or lab room with the College Facilities department (refer to District Administrative Regulation 3801).

## IV. Universal Waste

Hazardous waste regulations designate a category of wastes called "universal waste" (uWaste). This category includes many items, including fluorescent lamps, cathode ray tubes, instruments that contain mercury, batteries, and others.

Until recently, some universal wastes could be disposed in the trash under some circumstances, however this is no longer the case. All u-wastes are now banned from the trash. uWaste needs to be managed in way that prevents breakage or release to the environment. Commingling of items within a category (i.e. Batteries) is allowed. Containers should be closed, structurally sound and compatible with the contents if breakage occur. Contact College Facilities to schedule removal of uWaste. Refer to Section XII for the quarterly waste pick-up schedule.

### A. Batteries

Batteries come in many different types. Many of them are rechargeable while some are not. Most batteries are regulated as universal waste. Although the regulations on universal wastes are less stringent than hazardous waste, universal wastes are still regulated wastes. All waste batteries should be collected for proper recycling or disposal.

Types of batteries include, but are not limited to:

- Alkaline
- Carbon Chloride
- Carbon Zinc
- Lead-acid, "Sealed"
- Lithium
- Mercury
- Nickel-metal hydride (NiMH)

#### ➤ Procedure for battery disposal:

If any battery is leaking, be sure to properly contain it in a clear plastic bag or other suitable container to minimize contamination. Be aware that some electronic devices contain batteries (laptops, cell phones, UPS, etc). If you plan to dispose of the electronic device, you may leave the batteries in it and then dispose of the item as Universal waste. All batteries for disposal are collected on a quarterly basis at the hazardous waste pickups.

## B. Electronic Waste

Most electronic devices are regulated and cannot be disposed of in a landfill. Nearly anything that takes a battery, has a plug or contains a circuit board needs to be recycled. When these items are not wanted any more, they are considered electronic waste or "eWaste".

Waste electronics include but are not limited to: Computers (including keyboard, mouse, CPU, etc.), monitors, printers, fax machines, copy machines, network equipment, cables, telephones, televisions, microwaves, cell phones, pagers, radios and stereos.

Some metals found in electronics may include:

- **Aluminum:** Found in nearly all electronic goods using more than a few watts of power (heatsinks)
- **Copper:** Found in copper wire, printed circuit board tracks
- **Gold:** Found in connector plating, primarily in computer equipment
- **Iron:** Found in steel chassis, cases & fixings
- **Lead:** Found in solder, computer or TV monitors (in glass), lead-acid batteries, plastics to resist UV light
- **Lithium:** Found in lithium-ion battery
- **Nickel & Cadmium:** Found in nickel-cadmium rechargeable batteries
- **Silicon:** Found in glass, transistors, ICs, printed circuit boards
- **Tin:** Found in solder
- **Zinc:** Found in plating for steel parts

### CD/DVD Recycling

Every year, millions of CD, CD-ROM and DVD disks are thrown in the trash. These disks end up in landfills and incinerators causing unnecessary damage to our environment. We encourage you to reuse the plastic cases that the disks come in to the extent possible. Before recycling your disks, please ensure that you have erased any sensitive data that they may contain.

#### ➤ Procedure for Electronic Waste (eWaste) disposal:

CalRecycle in collaboration with the Department of Toxic Substances Control (DTSC), provides a searchable directory that allows users to locate a recycling opportunity for certain eWastes. For more information, visit: <http://www.calrecycle.ca.gov/Electronics/Reports/default.aspx>

All eWaste should be collected and disposed of during the quarterly waste pick-ups.

## C. Fluorescent & Other Lamps

Certain light bulbs and lamps contain toxic metals such as mercury which require special disposal. These bulbs and lamps are regulated by the Environmental Protection Agency (EPA) as uWaste.

Some examples of bulbs or lamps will include, but are not limited to:

- Fluorescent tubes
- High intensity discharge (HID)
- Neon
- Ultraviolet (UV)
- Mercury vapor
- High pressure sodium
- Metal halide

Most of the lamps or bulbs on campus get changed out on a regular basis. Facilities have employees responsible for the changing and proper disposal of these lamps. However, some lamps or bulbs may come from equipment that is changed by the user or the vendor that services the equipment. These bulbs should be handled as uWaste if they are broken or spent and follow the given procedures for lamp disposal.

➤ **Procedure for lamps disposal:**

- Place the bulb in the box that the replacement bulb comes in or other appropriate container.
- Place the box in a plastic bag (double-bagged).
- Tape or tie the top of each bag individually.
- Bring the bag to the hazardous waste pick-up location designated for your building.
- A hazardous waste label is not required for lamps and bulbs that are intact or are not broken because the bulbs may be recycled as "Universal Waste".
- Broken lamps and bulbs cannot be recycled and must be managed as hazardous waste. The broken bulb should be placed in a puncture-proof container (such as a sturdy-box) with a Universal waste label attached and taken to the waste pick-up location designated for your building.

## V. Hazardous Waste Overview

Federal and State regulations define hazardous wastes as a substance which poses a hazard to human health or the environment when improperly managed. Refer to Title 22 of the California Code of Regulations for the specifics on hazardous waste determination. A chemical waste is considered hazardous if it is either listed on one of the lists found in Federal or State regulations or if it exhibits one or more of the four following characteristics:

- **Ignitable** - ignitable wastes generally are liquids with a flash point below 60°C or 140°F.
- **Corrosive** - corrosive wastes are generally aqueous wastes with a pH less than or equal to two (2) or greater than or equal to 12.5 (although this program includes any waste that is not neutral).
- **Reactive** - reactive wastes are those wastes that are unstable, explosive, capable of detonation or react violently with water.
- **Toxic** - a chemical that poses a hazard to health or the environment.

It is District's policy that faculty, staff, and students **assume all chemicals are hazardous and must be managed through the Waste Management Program**. Strict sewer, air emissions and landfill regulations require that hazardous waste is not drain disposed, evaporated in fume hoods or disposed of in the normal trash. For help in classifying waste as hazardous or non-hazardous, speak with your supervisor or contact RM.

Hazardous chemical waste also include the following:

- Chemicals that can no longer be used for their intended use (aged or surplus inventory)
- Mislabeled or unlabeled chemicals
- Abandoned chemicals
- Material in deteriorating or damaged containers
- Residuals in chemical containers
- Diluted solutions containing hazardous chemicals
- Used photographic fixer and developer
- Debris contaminated with a hazardous material (rags, paper towels, gloves, etc.)

## VI. Types of Hazardous Waste

### A. Contaminated Dry Waste

Dry materials which have been contaminated with a hazardous chemical waste must be handled, stored, and disposed of properly. Examples of dry waste include, but are not limited to:

- Contaminated soils
- Ethidium bromide or acrylamide gels

- Dried chemicals that are in scrapable amounts on various surfaces
- Extremely hazardous waste containers or debris that are contaminated with extremely hazardous substances
- Contaminated labware - includes saturated or scrapable amounts of chemicals on items such as: plastic labware, Kimwipes, towels, pipette tips, and gloves
- Containers less than five (5) gallons that are contaminated with chemicals that cannot be easily removed
- Clean-up debris from a spill

Note: If the labware cannot be cleaned and reused, then you should dispose of it properly.

➤ **Procedures for contaminated dry waste disposal:**

- Double-bag the contaminated labware in clear plastic bags
- Attach a completed hazardous waste label
- Dispose at the quarterly waste pick-up for your college

## B. Empty Chemical Containers

Empty containers may have to be managed as hazardous waste depending on several factors. California waste regulations exempt empty containers (such as carboys, flammable safety cans and reagent bottles) of five (5) gallons or less capacity from being managed as hazardous waste, as long as they are completely empty.

Containers containing liquids are considered empty if no material can be poured from them. A container that held a non-pourable material is considered empty if no material remains that can be removed by scraping or chipping.

➤ **Empty container disposal procedures:**

- Containers five (5) gallons or less must be rinsed (collect rinse), marked as empty or have the labels defaced before disposal in normal trash or reused to hold waste.
- Depending on the type of chemical the container held, it may need to be rinsed with a solvent to remove residues. All first rinses should be collected as hazardous waste. Further rinsing may be used where appropriate. Collection of additional rinses will depend on the chemicals involved. Consult your supervisor for more advice.
- Glass containers should be disposed with the broken glass waste stream.
- Bottles which contained an extremely hazardous waste must be managed as dry hazardous waste through this program. Dry hazardous waste is always placed inside of two clear plastic bags with the waste label on the outer bag. Each bag should be taped or tied individually.
- Containers larger than five (5) gallons should be managed as hazardous waste.

## C. Gas Cylinders

Gas cylinders are used in some labs or shop areas. It is important to consider that these will need to be disposed of at some point. Your purchasing decisions may drastically effect how much it costs to dispose of the cylinder when you are through with it. Non-refillable cylinders of compressed gases are relatively expensive to dispose. In order to minimize the cost of disposal of these cylinders you can:

- Buy from manufactures that will take back both empty and partially empty cylinders.
- Buy compressed gases in refillable gas cylinders.
- Buy only as much as you need so the cylinder can be disposed of as empty (if necessary, buy a non-refillable bottle).

➤ **Procedures for cylinder disposal:**

- Label each container with a completed Hazardous Waste Label. If possible indicate how much material is remaining in the cylinder.

- All partially full cylinders must have a proper valve cap prior to pick-up by the waste removal supplier.
- If the cylinder is completely empty (no material will escape if the valve is opened), write "empty" with a marker both on the label and on the cylinder.
- Contact College Facilities for disposal request and scheduling of quarterly waste pick-up.

#### D. Extremely Hazardous Waste

Extremely or acutely hazardous wastes are a special category in the waste regulations. Federal regulations oversee the acutely hazardous wastes while California regulations oversee the extremely hazardous wastes. The colleges are required to follow both sets of regulations.

If a waste generator has an extremely or acutely hazardous waste, there is a limit to the amount that they can store in the lab at one time. One quart of extremely or acutely hazardous waste can be stored before disposal is required. When one quart or more of extremely or acutely hazardous waste accumulates, the waste must be disposed of within three (3) days of reaching that point. If you have less than one quart, you have 90 days to accumulate the waste (same as hazardous chemical waste).

It is suggested that if you are accumulating a waste that falls into this category, you should dispose of it before it reaches the one quart limit. This way you will not be restricted by the three day maximum time limit, and may schedule disposal at the regular quarterly waste pick-up.

#### E. Facilities Chemical Waste

Facilities is a unique group on campus that have different types of hazardous wastes than laboratories and other departments on campus. For this reason, the Waste Management Program includes a set of guidelines for Facilities waste disposal procedures. Refer to Section VII *Facilities Waste* for proper waste handling.

#### F. Unknown Chemical Waste

When liquids or solids are not labeled properly or the label becomes illegible, they can become unknown to the people responsible for it. If the contents of any container in a lab or shop area are not known, it needs to be labeled as such and disposed of as hazardous waste.

Unknown or unlabeled chemical waste requires analysis prior to disposal. In the event that you find an unlabeled chemical container, make an attempt to identify its contents. Consult with the area supervisor and others in the lab/department concerning any unidentified waste. However, never guess as to the contents of a container. Waste Management relies on accurate identification of chemicals to ensure safe and proper handling and disposal. If the contents cannot be identified **entirely**, label the container with a Hazardous Waste Label. The "contents" or "chemical constituents" section of the label should be listed as "unknown."

#### G. Reactives & Peroxide Forming

Potentially explosive peroxides can form if some chemicals are kept beyond their expiration date. A special team must remotely open every expired peroxide former individually. This path is very costly and can easily be avoided if you dispose of your peroxide forming chemicals (PFC) before the expiration date. PFC normally will not start forming these explosive peroxides if they are not expired. It is important for the generator to keep a record of when these PFC will expire so the department may avoid a potential hazardous incident.

The volatile and explosive nature of Peroxide Forming Chemicals and reactive chemicals warrants the following special guidelines:

- Generators should be aware of the storage and handling requirements of all peroxide forming chemicals and reactive chemicals.
- Supervisors should make sure staff members are properly trained.

- Purchase quantities that can be used in the short term.
- Make sure all reactive chemicals are labeled with the chemical name, appropriate warnings and expiration date. If the material is transferred to a container make sure the new container is labeled.
- Do not open ethers or reactive materials that are past their expiration dates.
- Do not open or move containers of dry picric acid.
- Do not open a liquid organic peroxide or peroxide former if crystals or a precipitate are present.
- Store peroxidizable materials away from heat and sun.
- Segregate reactive chemicals and store in a secondary container.
- Inspect and test peroxide-forming chemicals periodically.
- Dispose of all peroxide-forming chemicals and reactivities once they can no longer be used, before they reach their expiration date, or if testing shows the presence of peroxides.
- Do not move potentially explosive waste such as dry picric acid or expired peroxide forming liquids. Contact College Facilities to schedule disposal.

#### H. Contaminated Sharps

Sharps that are contaminated with chemicals are considered hazardous waste. These require special handling and disposal.

- Sharps contaminated with hazardous chemicals includes needles, wires, razor blades, scalpels, pipets, capillary tubes, etc. containing residual trace amounts of extremely hazardous chemicals. Consult the list of extremely hazardous wastes for more information.
- If the chemicals are not extremely hazardous, but are still hazardous, they should be in amounts that are pourable or scrapable (visibly contaminated).
- Free standing liquids are not allowed in this container.
- Dispose in a plastic or other hard-sided, puncture-proof sharps container that can be sealed closed. This sharps container cannot be red in color. Cardboard containers are not allowed.
- The sharps container must not have the words "Biohazard" or "Infectious" or the biohazard symbol anywhere on the container.
- No infectious material will be accepted in this waste stream.
- Attach a completed Hazardous Waste Label to the container.
- Dispose at the chemical waste pick-up for your building.

#### I. Waste Paint & Art Supplies

Some paints and other art materials contain hazardous waste. Refer to Section VIII *Waste Paint & Art Supplies* of this program for proper waste handling.

### VII. Facilities Hazardous Waste

Facilities have different types of hazardous wastes than laboratories and other departments on campus. For this reason, the Waste Management Program includes the following guidelines for Facilities waste disposal procedures. This is not a complete list of facilities waste. Proper disposition of all waste is the responsibility of each department.

#### A. Waste Oil

- Waste oil can be found in many types of compressors, pumps, transmissions, etc.
- Collect waste oil in a clean drum. If oil is collected in a used container, rinse the container and deface any labels. Since oil is recycled, be sure it is not cross contaminated with other materials.
- Containers must be closed. A bung must be in place on all drums when oil is not being added.

- Label the container when oil is first added. Label as "waste oil". Include the start date (date oil first added to the container) and the generator.
- Once the container is full, no longer needed or within nine (9) months from the start date, bring the drum to the designated waste collection area in Facilities and schedule for pick-up.

#### **B. Oil Filters**

- Drain oil filters and collect the waste oil as described above (Section VII. Part A.).
- Once completely drained, place the oil filters in a container and label as "waste oil filters", include the start date and the generator.
- Bring the labeled waste filters to the designated waste collection area in Facilities and schedule for pick-up.

#### **C. Waste Oil with other Solvents**

- Collect the waste in a clean container. Deface any old labels if reusing a container.
- Keep the container tightly sealed except when waste is being added.
- Label the container with the words "hazardous waste" and list the contents. Also, include on the label the hazardous class such as toxic, corrosive or flammable; the physical state such as solid, liquid or gas; the generator; and the start date.
- Once the container is full, no longer needed or within nine (9) months from the start date, bring it to the designated waste collection area in Facilities. If the volume reaches 55 gallons or more, the date that it reached 55 gallons (full date) must be written on the label and it must be brought to the designated waste collection area within three (3) days of reaching that volume.
- Label containers with unknown contents as "unknown material". A charge for analysis may apply.
- Bring the labeled waste container to the designated waste collection area in Facilities and schedule for pick-up.

#### **D. Mercury Containing Devices**

- Mercury can be found in major appliances, vehicles, temperature control devices, etc. The mercury found in these devices is usually found in the form of switches. All mercury switches must be managed as universal or hazardous waste.
- Although this is not a complete list, the following appliances may contain mercury switches: chest freezers, washing machines, gas ovens, electric or gas space heaters, commercial gas water heaters, gas furnaces, boilers, gas refrigerators, gas air conditioners, dryers and microwave ovens.
- If you find any mercury containing device that is leaking or has spilled, notify your supervisor and contact the Office of Risk Management immediately by calling (949) 348-6043.

#### **E. Storage**

- Store all containers in shop area. No outside storage is allowed unless the area is covered and a berm is in place to prevent leaking materials from entering a storm drain.
- Once a container is full, no longer being used or is nine (9) months old, bring it to the designated waste collection area at Facilities for disposal (do not store excessive waste in your shop area).
- All hazardous waste must be labeled with a Hazardous Waste Label.

#### **F. Empty Containers**

- Empty containers that once contained a hazardous substance and are greater than five (5) gallons must be labeled "empty" along with the date it was emptied.

- Empty containers that once contained a hazardous substance and are greater than five (5) gallons must be disposed of as hazardous waste. They must be labeled with a hazardous waste label and brought to the designated waste collection area at Facilities for disposal.
- Empty containers that are equal to or less than five (5) gallons can be rinsed and defaced. Once they are clean they can be thrown into the trash, reused, or recycled (where applicable).

## VIII. Waste Paint & Art Supplies

Some paints and other art materials contain hazardous waste which, when not properly handled, pose both safety and environmental hazards. The following guidelines are intended to help art students and staff in the proper handling and disposal of these materials.

### A. Waste Paint

Waste oil and water based paint cannot be poured down sink drains or disposed of in the normal trash. All waste paint must be collected in the waste paint collection drum located in your work area. If you do not have a waste collection drum, please contact the area supervisor or Division Office for assistance.

### B. Waste Paint Thinner and Other Solvents

All paint thinner and other solvent waste must be disposed of in the paint collection drum; it cannot be drain disposed of in the normal trash or evaporated. This includes any rinse material from cleaning brushes or other items contaminated with oil base paint.

### C. Latex Paint Rinse Water

Rinse water from cleaning brushes, rollers, and other items contaminated with latex paint, can be drain disposed as long as the paint does not contain heavy metals, lead or mercury. Most paints currently sold do not contain these materials, but if you suspect they do, check the container label or the material safety data sheet (MSDS/SDS). Contact the Office of Risk Management for further help.

### D. Materials Considered Non-hazardous

The following can be disposed of in the normal trash:

- Completely dry painting instruments, tarps and other items
- Completely empty aerosol cans
- Completely empty and dry paint cans
- Completely empty paint thinner or solvent containers less than five (5) gallons

All other partially full paint, solvent or hazardous material containers should be disposed of during the quarterly Hazardous Waste collections and in accordance with the applicable procedure above, such as "Contaminated Dry Waste" or "Empty Chemical Containers".

### E. Proper Management of Paint Waste Collection Drums

The Department will supply waste collection drums for all work areas requiring them. Once the drum is put into service it should be labeled with a Hazardous Waste Label. The drum should be kept closed when not being used. Once the drum is 90% full or if 90 days have passed, contact College Facilities to schedule the removal of the drum. Drums, even if not 90% full, should remain in a work area no longer than 90 days.

### F. Waste Minimization

In order to reduce the impacts of waste disposal on the environment and to reduce College waste disposal costs, please try to minimize the generation of hazardous waste. This can be done by the following:

- Try to use water based paint instead of oil based paint whenever possible
- Buy only the quantity of material that you need to complete your project

- If paint or other materials are left over, see if someone else can use them before disposing of them

## IX. Accumulation of Waste

This section outlines the requirements of waste accumulations, including suitable containers for the collection of hazardous chemical waste and the best practices for collection of waste materials.

### A. Accumulation Requirements for Hazardous Waste

- Hazardous waste may be accumulated onsite in generator accumulation units (containers, tanks, drip pads, or containment buildings) only in compliance with the applicable time limits specified in Health & Safety Code, section 25123.3 (90 days).
- If hazardous waste is accumulated in containers, a generator must comply with Title 22, Cal. Code Regs., division 4.5, chapter 15, article 9 (Use and Management of Containers). These requirements include:
  - 1) Placing containers holding ignitable or reactive wastes at least 15 meters (50 feet) from the facility's property line. (Section 66265.176.)
  - 2) Not placing incompatible waste streams into the same container. (Section 66265.177.)
  - 3) Separating a container holding a hazardous waste that is incompatible with any waste or other materials transferred or stored nearby. (Section 66265.177.)
- Maintaining all containers so that they are:
  - 1) in good condition (Section 66265.171);
  - 2) compatible with contents (Section 66265.172);
  - 3) closed, except when adding or removing hazardous waste (Section 66265.173);
  - 4) managed to avoid rupture or leaks (Section 66265.173);
  - 5) inspected weekly (Section 66265.174); and
  - 6) properly labeled (Section 66262.34).
- Secondary containment for a hazardous waste container is highly recommended.
- If hazardous waste is accumulated in tanks, a generator must comply with Title 22, Cal. Code Regs., division 4.5, chapter 15, article 10 (Tank Systems Standards). These requirements include maintaining all tanks so that the tanks are:
  - 1) inspected daily (Section 66265.195);
  - 2) properly labeled (Section 66262.34); and
  - 3) designed to hold hazardous waste and not collapse or leak. (Section 66265.192.)

Note: Most tanks and tank systems must have secondary containment. Secondary containment can include a liner, vault or double-walled tank. Appurtenances also must be contained. Secondary containment needs to be certified by a professional engineer registered in California. (Section 66265.191- 66265.196.)
- If hazardous waste is placed on drip pads, the generator must comply with Title 22, Cal. Code Regs., division 4.5, chapter 15, article 17.5 (Drip Pads) and maintain the following records at the facility:
  - 1) a description of procedures that will be followed to ensure that all wastes are removed from the drip pad and associated collection system at least once every 90 days; and
  - 2) documentation of each waste removal, including the quantity of waste removed, the sump or collection system and the date and time of removal.

### B. Container Requirements for Liquid Wastes

- Containers must be free of exterior contamination.
- Containers must be chemically compatible for the material stored.
- Containers must be in good condition with screw tops or sealed lids.
- Containers must not be leaking, rusting or have any other defects.

- Containers must not be filled to the top. (Leave 10% air space)

### C. Container Requirements for Dry Wastes

- Dry waste must be double-bagged in transparent, sturdy bags and cannot have sharp or protruding edges.
- Bags must be taped or tied closed.

### D. Collection Procedures

- Containers must be tightly closed when waste is not being added to them.
- Always store liquid waste containers in secondary containment.
- Inspect containers at least weekly for leaks and deterioration.
- Place broken thermometers in clear bags and double-bag as well.
- Put all chemically contaminated sharp objects in a sharps container that is not red and does not contain any biohazard symbols.

## X. Labeling Hazardous Waste

### A. Requirements for Labeling Hazardous Waste

The Environmental Protection Agency (EPA) has assigned the District identification numbers to enable regulators to track the waste from origin to final disposal ("Cradle to grave"). These numbers are site-specific. Contact your supervisor or College Facilities for more information on the EPA number assigned to your facility.

Handlers and generators of hazardous chemical waste in laboratories and work areas are subject to the following labeling requirements set forth by California Health and Safety Code and California Code of Regulations:

- 1) The date upon which each period of accumulation begins must be clearly marked and visible for inspection on each accumulation unit. (Section 66262.34.)
- 2) While being accumulated on site, each generator tank or container must be labeled or clearly marked with the words, "Hazardous Waste." (Section 66262.34.)
- 3) Each container and portable tank in which hazardous waste is accumulated must be labeled with the following information:
  - (a) *Start Date*: The date waste was first placed in the container or date the material was designated as waste;
  - (b) *Content/Composition*: Name the contents of the waste container. When waste consists of a mixture of materials each component must be listed and the approximate percent of the total mixture volume indicated;
  - (c) *Physical state*: Indicate if the waste is Solid, Liquid, or Gas.
  - (d) *Hazard statement(s)*: Call attention to the particular hazardous properties of the waste (e.g. flammable, oxidizer, poison, reactive, etc.); and
  - (e) *Generator Information*: Name of Department responsible for the contents and oversight of the waste container, room location of generation, street address of college and assigned EPA number. (Section 66262.34.)
- 4) Containers and tanks used by the generator to collect or consolidate wastes initially accumulated in other containers or tanks are subject to the same labeling requirements. The initial accumulation and "90-day period" dates on the "collection" container/ tank must be the oldest of the initial accumulation and "90-day period" dates from the various containers/tanks emptied into the "collection" container/tank. This may require dates to be changed if wastes from "older" containers/tanks are added to the "collection" container/tank.
- 5) In some cases, containers are continuously reused for accumulation of the same waste stream; e.g., drums used to initially accumulate waste which when full are emptied into

larger "collection" containers. "Recurring use" labels may be used on such containers to revise the initial accumulation and "90-day period" dates (without having to change the other labeling information). If the container is emptied at least once each day, the word "daily" may be used in the date area of the label.

## XI. Storage of Hazardous Waste & Segregation

### A. Storage of Hazardous Waste

Storage requirements for hazardous waste in laboratories and work areas are specified under state regulations. Hazardous chemical waste is subject to the following requirements:

- Containers must be labeled with a Hazardous Waste Label at all times.
- Containers must be kept closed during storage except when waste is being added.
- Containers must be chemically compatible for the material stored.
- Containers must be in good condition with screw tops or sealed lids.
- Containers that hold hazardous chemical waste must be stored in secondary containment at all times.
- Waste must be collected and stored at or near the point of generation (same or adjacent room) and under the control of the laboratory or work department where it was generated.
- According to State law, the maximum amount of waste that can be stored in a lab is 55 gallons of a hazardous waste or one quart of extremely hazardous waste. If you reach these volumes of a specific waste stream, you must relocate the waste within three (3) days of reaching that volume to the designated waste pick-up location for that department or building.
- Incompatible waste must be segregated.

### B. Segregation

All hazardous materials should be stored and transported to prevent spills and uncontrolled reactions. Segregate chemicals by hazard class. Refer to the materials' Safety Data Sheet (SDS) for compatibility details. Examples of proper segregation are:

- Segregate acids from bases
- Segregate oxidizers from organics
- Segregate cyanides from acids

## XII. Hazardous Waste Disposal & Pick-up Schedule

Frequent disposal will ensure that amounts of waste stored in labs are kept at minimal levels. Once a waste container is full, it must be brought to the waste pick-up location designated for that building. Once an experiment or process is completed, all partially filled containers must be disposed of at the next scheduled pick-up for the college. District policy states that hazardous chemical waste can only be stored for up to 90 days.

Most buildings have a specified location that is designated for waste collection and/or storage between pick-ups. Contact your area supervisor for more details on designated waste storage sites. When transporting hazardous waste to the pick-up location, all personnel:

- Must be trained on the hazards of chemical waste, safe handling techniques and procedures to follow in the event of a spill.
- Must label all hazardous chemical waste in accordance with Section X. *Labeling*.
- Segregate materials according to hazard classification for transportation. Each hazard class should have a secondary container.
- Hazardous waste can never be left unattended in any public area.

- Wear appropriate lab attire (long pants, closed-toe shoes). Bring personal protective equipment in case of a spill.

The Director of Facilities, or designee, shall coordinate the disposal of all hazardous waste at each college and notify the appropriate administrators/supervisors of the pick-up schedule. Hazardous Waste pick-ups are performed on a regular basis and at quarterly intervals in **March, June, September and December**. Scheduled quarterly pick-ups are only for routinely generated waste. Each department that generates waste must complete a Hazardous Waste Removal Request form and submit to the college Director of Facilities. For large or special pick-ups contact the College Facilities Department for further instructions. College Facilities must forward copies of the original removal requests and waste manifests to the District Office of Risk Management after each pickup has taken place.

### XIII. Treatment of Hazardous Chemical Waste

California waste regulations will allow labs to conduct limited bench top treatment provided that certain requirements are followed. The treatment of hazardous waste may still result in the generation of residuals which may have to be managed as hazardous waste. The treatment of hazardous waste in labs is allowed only if approved by the Office of Risk Management. The following is a summary of State requirements for treatment of waste in laboratories:

- The treatment occurs in a lab.
- The purpose of the treatment is to minimize the generation of hazardous waste or enhance lab safety.
- The quantity of hazardous waste and the treatment methods is in accordance with "Prudent Practices in the Laboratory 1995" (p. 160-171), National Research Council procedures, or other peer-reviewed scientific publications. In addition to the above, the quantity of waste treated in one batch cannot exceed 5 gallons of liquid or 18 kilograms of solid or semi-solid.
- The hazardous waste treated is from one experiment, or a set of experimental processes, and is of similar composition with no mixing of incompatible waste.
- The person conducting the bench top treatment complies with all applicable requirements for management and disposal of the waste resulting from the treatment.
- The person conducting the bench top treatment is one of the operators of the experimental process and is adequately trained in the treatment method, waste handling procedures and emergency procedures and documentation of this training is on file in the lab for three years; the bench top treatment is conducted within ten (10) working days of completion of the laboratory process.
- All residual hazardous waste is handled according to the District's Waste Management Program.

### XIV. Hazardous Waste Minimization

The Office of Risk Management believes in the minimization of chemicals that become waste on campus. The objective of the following controls is to minimize the costs, health hazards, and environmental impacts associated with the disposal of hazardous waste. This is accomplished by establishing both administrative and operational laboratory procedures. Review the usage of chemicals in your area to identify practices which can be modified to reduce the amount of hazardous waste generated. Prior to beginning work, experimental or process protocols should be evaluated to ensure they will be carried out in a manner that minimizes the generation of hazardous waste. The best way to minimize the volume of hazardous waste produced is not to generate it in the first place. This is not always possible so we have some suggestions to assist you in waste minimization. Following are some general guidelines for reducing the generation of hazardous waste in laboratories.

### A. Purchasing Control

- Order only exact volumes to be used.
- Establish a centralized purchasing program for your area to monitor chemical purchases and avoid duplicate orders.
- When ordering chemicals, be aware of any properties that may preclude long term storage.
- Use suppliers who can provide quick delivery of small quantities.

### B. Inventory Control

- Order only exact volumes to be used.
- Promote sharing among common users.
- Rotate chemical stock to keep chemicals from becoming outdated.
- Locate surplus/unused chemicals - attempt to redistribute unused chemicals to other users.
- Attempt to return unused chemicals to vendor.

### C. Operational Control

- Review experimental protocol to assure that chemical usage is minimized.
- Reduce volumes used in experiments - use microscale procedures.
- Use less hazardous or non-hazardous substitutes when feasible.
- Instead of wet chemical techniques, use instrumental methods - these generally require smaller amounts of chemicals.
- Consider using off-site analytical services.
- Reuse spent solvent for initial cleaning, use fresh solvent only for final rinse.
- Substitute specialty detergents for sulfuric acid/chromic acid cleaning solutions. Distill and reuse solvents.
- Avoid mixing hazardous and non-hazardous waste.
- Review literature for additional techniques applicable to your particular processes.

## XV. Definitions

*Container:* A device that is open or closed, and portable, in which material can be stored, handled, treated, transported, recycled or disposed of.

*Containment Building:* A hazardous waste management unit that is used to store or treat hazardous waste under the provisions of article 29 of chapter 14 or 15, division 4.5, Title 22, Cal. Code Regs.

*Drip Pad:* An engineered structure consisting of a curbed, free-draining base, constructed of non-earthen materials and designed to convey preservative kick-back or drippage from treated wood, precipitation, and surface water run-on to an associated collection system at wood preserving plants.

*Generator or Producer:* Any person, by site, whose act or process produces hazardous waste or whose act first causes a hazardous waste to become subject to regulation.

*Hazardous Waste Facility or Facility:* All contiguous land and structures, other appurtenances, and improvements on the land used for treatment, transfer, storage, resource recovery, disposal or recycling of hazardous wastes. A hazardous waste facility may consist of one or more treatment, transfer, storage, resource recovery, disposal or recycling operational units or combinations of these units.

*Non-RCRA Hazardous Waste:* All hazardous waste regulated in the State of California, other than RCRA (federally-regulated) hazardous waste. A hazardous waste is presumed to be RCRA hazardous waste, unless it is determined pursuant to Section 66261.101 that it is a non-RCRA hazardous waste.

*Offsite:* Any site that is not onsite.

*Onsite:* Geographically contiguous property that may be divided by public or private right-of-way, provided the entrance and exit between the properties is at a crossroads intersection, and access is by crossing as opposed to going along the right-of-way. Noncontiguous properties owned by the same person but connected by a right-of-way which that person controls and to which the public does not have access, are also considered onsite property.

*RCRA:* Resource Conservation and Recovery Act (RCRA). Federal statute that regulates generators, transporters, and facilities that treat, store or dispose of hazardous waste. All RCRA hazardous wastes are identified in Part 261 of title 40 of the C.F.R. and appendices and title 22, Cal. Code Regs., Section 66261.1et seq.

*Silver-only Hazardous Waste:* Wastes containing silver or silver compounds that are hazardous waste solely due to the presence of silver in the waste. These wastes are regulated according to the provisions of Health & Saf. Code, section 25143.13.

*Storage Facility:* A hazardous waste facility at which the hazardous waste is either: (a) held onsite past the applicable time limit (90/ 180/270 days); (b) held for any period of time at an offsite facility that is not a transfer facility; or (c) held at a transfer facility for periods longer than six days, or longer than 10 days for transfer facilities located in industrial areas. (d) DTSC may extend the above period of time for hazardous waste that is generated as a result of an emergency release and that is collected and temporarily stored by emergency rescue personnel, as defined in Section 25501, or by a response action contractor, upon the request of emergency rescue personnel or the response action contractor. (e) The hazardous waste is held at a transfer facility for any period of time in a manner other than in a container or tank. (f) The hazardous waste is held at a transfer facility for any period of time and handling occurs other than the transfer of packages or containerized hazardous waste from one vehicle to another. (g) A grant of authorization from the Department is required for a Hazardous Waste Storage Facility.

*Tank:* A stationary device, designed to contain an accumulation of hazardous waste constructed primarily of nonearthen materials (e.g., wood, concrete, steel, plastic) which provide structural support. Note: Devices designed to allow attached "hard-piping" are considered to be tanks because this indicates that they are not intended to be moved while in use.