LABORATORY HAZARDOUS WASTE SATELLITE ACCUMULATION
AREA REQUIREMENTS

Note: Biological, Controlled Substances, Radiological & Chemical Wastes at EH&S web site: http://ehs.fiu.edu

Setting up a Hazardous Waste Accumulation Area
☐ Area must be posted as a “Hazardous Waste Satellite Accumulation Area”
☐ Area must be of an adequate size to assure that it can safely store the waste being generated in the area and containers of and containment for wastes does not:
  - protrude into aisle-ways,
  - block access to emergency equipment or exits,
☐ Hazardous Waste Accumulation Areas should be located near the process that is generating the waste.
☐ Area must NOT be located:
  - Next to operations which are incompatible with the wastes (e.g., ovens & flammable wastes).
  - Next to areas where incompatible chemicals or wastes are regularly used or stored.
  - Inside laboratory fume hoods which have drains or do not have adequate secondary spill containment.
  - Inside laboratory fume hoods that are used for other purposes. (If a fume hood is used for the storage of hazardous wastes NO other equipment or chemicals may be present in the hood).
  - Next to open floor drains or sinks.
  - On bench tops of, table, benches, flammable or corrosive storage cabinets, or other precarious locations.

Supplies
☐ Departments are responsible to provide their own chemically compatible waste containers and secondary containment vessels.

Examples of secondary containment vessels include:
  - Pail, Bucket, Tub, etc. (Able to contain 110% of all the liquid stored within it)
  - Spill Tray (Able to contain 110% of all the liquid stored within it)
  - Utility Containment Tray with Grating (Able to contain 110% of the largest container’s volume stored on it).

☐ Appropriate Chemical Spill Cleanup Kit(s) must be readily available for all chemicals, and chemical containing equipment, being used or stored in the lab or shop.

Containers
☐ Primary containers are those received directly from the manufacturer/supplier which still has their original contents.
☐ Secondary containers are not from the manufacturers (do not have the original manufacturers label on or contents in them) and have been cleaned as specified in the Cleaning Chemical Containers for Reuse or Disposal.
☐ Hazardous waste must be compatible with the secondary container(s) used for its collection and storage.
☐ Remove or deface all wording on labels of containers to be used for the collection and storage of hazardous waste.
☐ Wastes must be collected in sealable containers with secure closures (ex., screw top) that prevent spillage during transport.
Non acceptable containers include:
- Open beakers, cans, tubes, tubs, etc.

Non acceptable container closures include:
- Taping, rubber stoppers, glass stoppers, corks, etc.

Please Note - The adequacy of container and closure will be determined by EH&S at the time of pick-up. If deficiencies are found it will be the responsibility of the generator to correct any problems before pick-up of the wastes can proceed.

Cleaning Empty Containers for Reuse or Disposal

Under the US-EPA Hazardous Waste regulations, a container is generally considered empty if:
- its contents have been removed by commonly employed practices such as pouring, pumping or aspirating,
- No more than one inch (2.54 cm.) or one percent of the residue remains on the bottom of the container (which ever is the smaller amount).
- If the container is greater than or equal to 55 gallons (208 liters), no more than 0.3% by weight of the total container capacity.

No amount of chemical or mixture shall be disposed of down the drain in order to meet the empty chemical container designation.

The EPA Classification for the material last stored in the container must be identified (see http://www.epa.gov/epawaste/hazard/wastetypes/listed.htm ), if that material or an ingredient in a mixture is listed as an Acute Hazardous Waste (P or U-Listed) or if the material is known to have high acute toxicity, the following procedures would be required to designate the container as empty;
- The container must be triple rinsed with a solvent (which might be water) capable of removing the acute hazardous waste.
- Each of the three rinse cycles must be performed with an amount of solvent equal to approximately 5% of the volume of the container.
- All solvent used for cleaning the container (Rinseate) must be collected and disposed of as hazardous waste.
- When the cleaning procedure is finished, the open container must be air dried and placed in a ventilated area to insure that it is free of liquid or other visible chemical residue before reuse, storage or disposal.
- If the container is going to be disposed of in the regular trash, all container labeling must be removed or defaced and closures (caps, lids, etc.) removed.
- To deface a container label, use a good dark colored marker and insure that all chemical and hazard warning information is no longer visible and "EMPTY" is clearly written on the container
- A label containing the wording “Clean Empty Uncontaminated Glass Container” should be attached to the bottle before the container is disposed of directly into an outside trash dumpster or broken glass container.
- If the container is going to be reused or placed in storage for later use, all container labeling must be removed or defaced.
- To deface a container label, use a good dark colored marker and assure that all chemical and hazard warning information is no longer visible.
- A label containing the wording “Clean Empty Uncontaminated Glass Container” should be attached to the bottle before the container is placed in storage.

Hazardous Waste Containers (Characteristic, or non P or U listed waste) can be disposed of as regular trash;
- Once the container is designated as empty, as defined above by the US EPA
- The empty container is air dried in a ventilated area (e.g. a chemical fume hood) without triple rinsing
- All container labeling must be removed or completely defaced and closures (caps, lids, etc.) removed.
- A label containing the wording “Clean Empty Uncontaminated Glass Container” should be attached to the bottle before disposal the container is disposed of in the regular trash or broken glass container.
Labeling

☐ Obtain standardized “HAZARDOUS WASTE” labels from EH&S (at no charge, Call 7-2621), you may also make your own labels which contain the required information as given below.

☐ Mark all hazardous waste container labels with the words “Hazardous Waste.” (Not organic waste, acid waste, etc.).

☐ Label waste containers accurately, identifying each constituent by printing out the full name in English with their percentages. (NO Chemical Symbols).

☐ The quantity of all the constituents identified on the “HAZARDOUS WASTE” label must add up to 100%.

☐ The area on the “HAZARDOUS WASTE” label for the “DATE” MUST be left blank. EH&S will enter a date when the material is picked up for transport to a University Hazardous Central Hazardous Waste Storage Facility.

☐ “HAZARDOUS WASTE” labels are not necessary on unused product as long as the original supplier’s label is intact and legible. These items may be eligible for the Interdepartmental Chemical Exchange Program (ICEP). For more information about ICEP, visit FIU EH&S web site at http://ehs.fiu.edu or call X7-2621.

☐ Hazardous Waste containers on which required labeling information is missing or illegible for any reason will not be picked-up by EH&S for disposal until all the requirements are fulfilled. Such containers are problematic at the time of an emergency spill and when picked-up for transport to the offsite Treatment, Storage and Disposal facility.

Filling

☐ Hazardous waste containers must remain tightly closed, except when it is immediately necessary to add wastes into it.

☐ Funnels must be removed from containers when not in immediate use. Before adding material to an existing waste container, make sure it is compatible with material already inside.

☐ A Hazardous Waste Pick-up for Disposal Form MUST IMMEDIATELY be submitted to EH&S when any size container of hazardous waste is full or its use has ended. It is against federal regulations (US EPA) to accumulate or store full or unused containers of waste in labs or shops.

☐ Limit the waste volume to no more than 55 gallons, or 16 ounces of a “P” listed waste, in any lab/ shop, or room at any one time. A list of all current EPA “P” listed wastes (Acutely Hazardous) can be found at http://www.epa.gov/epa/waste/hazard/wastetypes/listed.htm.

☐ When a container of Hazardous Waste is full, the generator must immediately submit a Request for Hazardous Waste Pick-Up for Disposal Form to EH&S. DO NOT accumulate multiple full containers of Hazardous Waste in your lab, storage or work area at any time without EH&S approval.

☐ Limit the amount of liquid waste in 15 gallon waste containers to 12 gallons.

☐ Do not fill smaller containers to the top, leave adequate headspace for liquid expansion (1 to 2 inches/bottle).

☐ If additional waste is likely to be generated before EH&S arrives, a second waste container, which meets all storage, labeling and filling requirements, must be started.

☐ Biohazard, radioactive and chemical hazardous wastes SHALL NOT BE MIXED TOGETHER.

☐ Exterior of the waste container must be free of visible chemical contamination due to leaks, spillage or overfilling.

☐ Containers showing signs of surface stains or leakages will not be picked-up until the:
  - Leak is stopped and the hazardous materials cleaned up.
  - Spilled material is safely contained and neutralized (if applicable).
  - Original container surface is clean and decontaminated.

☐ All hazardous waste containers must be placed inside or on secondary containment vessel which:
  - Is chemically compatible with all hazardous waste materials being stored inside the waste container(s).

☐ If hazardous waste containers are stored inside the secondary containment vessel (ex. pails, trays, tub, drums, etc.), it must be able to hold 110% of all the liquid stored within it).

☐ If the hazardous waste containers are stored on an elevated graded platform which is part of the secondary containment tray system (ex. Utility Containment Tray with Grating, or Spill Pallet), the secondary container must be able to contain 110% of the volume of the largest container stored on it.
Training

To meet EPA Requirements all persons who work at or oversee operations which generate hazardous waste will receive training annually. This includes all applicable PIs, Lab Managers, Visiting Professors and all laboratory employees (working in or have desk space designated within labs that generate hazardous waste). To meet this requirement all the above mentioned personnel will complete the following course either online or at regularly scheduled classroom sessions:

a. Hazardous Waste Awareness and Handling
b. Environmental Awareness, Part II – Waste and Chemical
c. Small Spills and Leaks

Registration for these courses is available at: http://ehs.fiu.edu

All current laboratory related safety training certificates must be readily available for inspection and review by university, county, state and federal officials upon request. Copies of all current training certificates should be kept on file in the lab.

Failure to meet training requirements will delay pick-up until successful completion is confirmed by EH&S.

Students and employees (working in the lab) must know the lab’s hazardous waste accumulation site requirements.

Train persons working in the lab to know the location of emergency chemical spill kit(s), safety shower, eye-wash, fire extinguisher(s), room exit(s), primary and secondary emergency routes of travel and designated safe area of refuge.

Hazardous Waste Pick-up Procedures

Submit a Hazardous Waste Pick-up request form to EH&S before you exceed the safe handling volumes specified in the above Filling Section.

Download a copy of the “Request for Hazardous Waste Pick-Up for Disposal form at http://ehs.fiu.edu

Individual forms must be completed for each container of waste with different chemical constituents.

A single form may be submitted for multiple containers if their chemical constituents and concentrations are the same.

Filling Out the Request for Hazardous Waste Pick-Up Form

The form must be completely filled out. All wording must be Printed In English & Readable

Chemicals components must be spelled out (No Chemical Symbols)

The percentage (%) of Chemical Constituents, identified by the requester must add up to 100%.

When dealing with original products or mixtures, the chemical suppliers Materials Safety Data Sheet can be used to assist with the completion of the Chemical Constituent area of the Hazardous Waste Pick-Up Disposal form.

When dealing with mixtures created by the waste generator, a lab analysis is required, (paid by generator) if the chemical make-up (each constituent and concentration) of the waste can’t be accurately determined.

All information in the Waste Characteristics area must be completed. If applicable an “X” or “√” in the N/A boxes is acceptable, otherwise these areas must be completed accurately.

When the “Request for Hazardous Waste Pick-Up for Disposal” form is completely filled out and signed, a copy can be faxed to EH&S at (305) 348-3574 or sent through inter-office mail to CSC 162.

EH&S will send the requester an e-mail acknowledging receipt of the request.

EH&S will review the form and notify the requestor of any omissions or deficiencies which must be corrected by the requestor before scheduling a pick-up date and time. It is the responsibility of the generator (PI, Lab Manager, Area Manager or Director) to correct omissions and deficiencies as soon as possible in order to comply with Federal regulations.

When the “Request for Hazardous Waste Pick-Up for Disposal” form is acknowledged by EH&S as complete and correct, EH&S will contact the requestor (by e-mail) to schedule a date and time for pickup.

To prevent any delay in pick-up or an unacceptable risk of spillage during waste transportation to the FIU Storage Facility or off site Treatment, Storage and Disposal Facility the waste containers must:
□ Be tightly closed with a chemically compatible, secure, air tight seal or closure (screw top, drum bong, etc.).
□ Not be filled beyond their safe handling quantities, as listed in the FILLING SECTION above.

Please Note - If these requirements are not met, it will be the responsibility of the lab or shop generating the waste to properly redistribute the waste in appropriate containers before pick-up

□ The requester must be present when EH&S picks up the waste to:
  - Answer any further questions that EH&S has concerning the hazardous waste;
  - Take any further action that EH&S may require before completing the pick-up;
  - Receive a copy of the signed and dated Request for Hazardous Waste Pick-Up form from EH&S.
  - All completed and sign forms must be kept on file by the requestor for a minimum of three;
  - All completed forms must be readily available for review by FIU, Local, State and Federal compliance officials

Chemical and Broken Glass Containers
□ A broken glass container must be available in labs where needed. Appropriate containers are made from puncture-resistant plastic or corrugated cardboard with a 2 mil plastic liner.

□ Broken glass containers are ONLY for the disposal of:
  - Clean broken glass (no chemical residual on surface of broken pieces of glass).
  - Empty, clean, defaced glass containers, which meet the criteria specified in the “Cleaning Empty Containers for Reuse or Disposal” section of this document.

□ Broken glass containers ARE NOT for:
  - Contaminated broken glass (has chemical residue on surface of broken pieces of glass)
  - Containers which have stored EPA P-listed waste or toxic materials.
  - Paper, plastic, bottle caps/tops, metal cans, food, or general garbage
  - Contaminated broken glass or containers must be handled, containerized, labeled and disposed of as hazardous waste through EH&S

□ Before disposal to outside dumpster, clean broken glass boxes must be:
  - Visually inspected for integrity
  - Securely taped shut around the top and bottom to prevent breakthrough or spillage.

□ With a permanent marker, write the following information on the side of the box:
  - “CLEAN GLASS”
  - Building (can be abbreviated)
  - Room number
  - PI/Lab manager name

□ Full broken glass containers and empty clean chemical containers (not intended for reuse) cannot be stored in the lab and must be removed. Never overfill the broken glass box container.

□ When the broken glass containers or empty containers are ready for disposal, it is the generator’s responsibility to:

Provide the necessary personal protective equipment for the individual(s) assigned to dispose of the containers in an outside trash dumpster. This personal protective equipment shall include:
  - Puncture resistant gloves (ex. Leather, Kevlar)
  - Lab coat
  - Eye/face protection (safety glasses/goggles, or face shield)

Maintenance and Records Management
□ Maintain copies of EH&S Waste Pick-up Manifest for the past 3 years and have them readily accessible for review.

□ A current copy (renew annually) of the training certificates for “Environmental Awareness, Part II – Waste and Chemical” and “Small Spills and Leaks” must be readily available for review for the individual(s) who prepare and sign the “Request for Hazardous Waste Pick-Up” form.

□ Designate an accumulation point of contact manager: Laboratory Waste Manager

(Print name)