



ECKERD COLLEGE

Safe Operating Procedure

(2/09)

HAZARDOUS WASTE CLASSIFICATION AND COLLECTION

In the Natural Sciences Collegium at Eckerd College, hazardous waste, spent solvents, and other commonly used laboratory materials are segregated according to the scheme below:

Waste Collection: hazardous waste will be collected in the individual laboratories within the biology, chemistry, and marine science buildings in designated containers.

Waste Segregation: three different waste containers will be available in the general teaching laboratories; these are indicated below (see photo bottom next page).

“A” WASTE: FLAMMABLE, NON-HALOGENATED SOLVENT MIXTURES

“B” WASTE: FLAMMABLE, HALOGENATED/NON-HALOGENATED SOLVENT MIXTURES

“C” WASTE: SOLUTIONS OF AQUEOUS, TOXIC METAL SALTS (EXCLUDING MERCURIALS). This waste includes solutions of * Silver * Cadmium, * Barium, * Cobalt, * Copper, * Chromium, * Thallium, ions complexed with any counter ion (e.g., chloride, nitrate, phosphate, sulfate, etc).

Separate containers will be used for:

FORMALIN WASTE (large quantities)

ETHANOL WASTE (large quantities)

MERCURY COMPOUNDS: this includes mercury metal as well as mercury salts.

SPECIAL WASTE: this is any waste that does not fit into one of the above categories. Contact: Fawn Crotty x8447.

Hazardous Material Collection Containers

To ensure compliance with regulatory requirements, observe the following rules pertaining to collection container maintenance and labeling.

1. Ensure that the collection container is labeled immediately upon placement of chemicals into the container. At a minimum, the container must be labeled with the fully written, proper chemical name of the material contained within. If it contains a mixture of chemicals, label the container with the names of all individual chemicals. When the material is identified by trade name, include the proper chemical name in parenthesis. To facilitate completion of the collection tag when the container is full, it is advisable to also record whether the material is used or unused and the percent composition for mixtures.
2. Only use containers that are in good condition (e.g., tight-fitting lids, no leaks, no corrosion, and no serious dents).
3. Choose containers that are compatible with the contents (e.g., do not place acids in metal containers).
4. Do not place incompatible or unlike chemicals in the same container, or use a container that previously held an incompatible chemical.
5. Do not overfill the container. Leave 3-inches of headspace in 1-gallon containers and 1-inch of headspace in 5-gallon containers.
6. Collection containers must be kept closed at all times, except when immediately adding or removing materials. Do not leave funnels in collection containers. Use a lid that will prevent the material from spilling if the container is tipped over.
7. Store the container in a suitable location for the hazards present (i.e., in a flammable liquids storage cabinet if the contents are flammable, etc.).

Hazardous Waste Pick-up Site: There are three designated areas within NAS that accept hazardous waste: the Biology, Chemistry, and Marine Science stockrooms. When you have a full container of hazardous waste, take it to the respective supervisor in the stockroom in your building (Biology: Jennifer Gilkey, Chemistry-Physics: Fawn Crotty, Galbraith: Dave Bennett). The stockroom supervisor will process the waste for pick-up by Facilities Management. For further information please consult the NAS Hazardous Waste Management Plan.



Waste is considered hazardous if:

It is on either of two lists of specific chemical substances developed by the Federal Environmental Protection Agency (EPA). Most commonly used organic solvents (e.g. acetone, methanol, toluene, xylene, methylene chloride etc.) are included.

It is on a list of nonspecific sources that includes a broad range of spent halogenated and non-halogenated solvents.

It is on a list of specific sources that includes primarily industrial processes.

It exhibits any of the following characteristics as defined by the EPA:

Ignitable – D001

It is a liquid with a flash point less than 60° C (140° F)
It is not a liquid and is capable, under normal temperature and pressure, of causing fire through friction, absorption of moisture or spontaneous chemical changes
an ignitable compressed gas
an oxidizer

Corrosive – D002

It is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5
It is a liquid and corrodes steel at a rate greater than 0.250 inches per year at 55° C

Reactive – D003

It is normally unstable and undergoes violent change without detonating
It reacts violently with water
It forms potentially explosive mixtures with water
It generates toxic gases, vapors or fumes when mixed with water cyanide or sulfide wastes that generate toxic gases, vapors or fumes at pH conditions between 2 and 12.5
It is capable of detonation or explosive decomposition if subjected to strong initiation or under standard temperature and pressure
It is classified as a Department of Transportation explosive

Toxicity – D004-D043

if an extract of the waste is found to contain certain metals, pesticides or selected organics above specified levels
If it is otherwise capable of causing environmental or health damage if improperly disposed (this is a judgment you must make based upon your knowledge of the material from the Material Safety Data Sheet or the literature).