

HAZARDOUS (CHEMICAL) WASTE DISPOSAL PROCEDURES

These procedures apply to all surplus or waste chemicals which are regulated and meet the definition of a hazardous waste as described in **40 CFR§261.3**. To remove hazardous waste from the research area, these guidelines must be followed:

1. The generating laboratory is responsible for the identification and labeling of all chemicals including waste to be disposed, particularly those not in original containers. Unlabeled or unknown waste chemicals will be handled on a case by case basis and are subject to a potentially expensive analysis fee in addition to the disposal fee. **The generating laboratory will be charged for the additional analysis costs.**
2. The generating laboratory will prepare a chemical inventory of the waste which includes the name of individual substances, names and concentrations of mixed waste in the same container, physical state, container size, and amount. An example is shown in *Table X*.

Table X Example of Chemical Waste Disposal Inventory

CHEMICAL NAME	CONC.	STATE	CONTAINER	AMOUNT
1. acetone		liquid	4 liter	2 liters
2. acetonitrile	50 %	liquid	5 gallon	5 gallons
toluene	49 %	liquid		
acetic acid	0.5 %	liquid		
iodine	0.5 %	liquid		
3. phenol		crystal	500 gram	50 grams

All containers used as chemical waste receptacles by laboratory personnel, must be properly labeled with the name of the chemical constituents and capped between uses. In addition, **all photographic processing waste (developer and fixer) must be disposed through EHS.**

3. Chemicals inventoried for disposal should be set aside from other chemicals in the laboratory.
4. Upon completion of steps 1, 2 and 3, the generating laboratory should contact **EHS** for waste pick up.
5. The waste chemicals will be segregated by chemical class and stored in a designated storage area until disposed. Disposal will be handled by **EHS** personnel according to the University's Hazardous Waste Management Policy and Procedures and in compliance with all applicable governmental regulations.
6. Certain chemicals may be disposed by laboratory personnel, depending on the type and amount. Laboratory personnel must receive **EHS** approval prior to disposal.
7. Chemical Exchange Program.

Upon receipt of waste and surplus chemicals from the generating laboratories, **EHS** will determine which of these chemicals are available for reuse and redistribution. **EHS** will also remove unused surplus chemicals from research areas. These chemicals will be inventoried and stored. A list of available chemicals will be posted periodically. Laboratory personnel interested in participating in the chemical exchange program should contact **EHS**. Surplus chemicals are available free of charge and on a first come, first served basis.

DISPOSAL OF BIOMEDICAL (INFECTIOUS) WASTE

All facilities at the University of Miami which generate biomedical waste must follow minimum sanitary practices to minimize exposure of employees, patients, and the public to disease causing agents. These practices govern the segregation, handling, labeling, storage, treatment, and disposal of biomedical waste, as required by **FAC Chapter 64E-16**.

Biomedical waste is defined as any solid or liquid waste which may present a threat of infection to humans. Included are non-liquid tissue, body parts, blood, blood products, and body fluids from humans and other primates; laboratory and veterinary wastes which contain human disease-causing agents; and discarded sharps. Also included are the following: (1) used absorbent materials saturated with blood, blood products, body fluids, or excretions or secretions contaminated with visible blood; (2) absorbent materials saturated with blood or blood products that have dried; and (3) non-absorbent disposable devices which have been contaminated with blood, body fluids; or secretions or excretions visibly contaminated with blood.

Each clinical, laboratory, or veterinary contiguous area in which one or more individuals work together and produce biomedical waste, must provide a Unit Specific Biomedical Waste Plan. The Plan must outline the identification, segregation, labeling, storage, handling, treatment, record keeping, and training in compliance with State regulations and University policy. A sample of a Unit Specific Biomedical Waste Plan is found in Appendix B.

Disposal and Handling Considerations

The following apply to the disposal and handling of biomedical waste:

- ! Biomedical waste shall be identified and segregated from other solid waste at the point of origin.
- ! Contaminated sharps must be segregated from non-sharps biomedical waste and discarded directly into an approved sharps container. Sharps containers must be sealed when three quarters full and properly labeled before leaving the laboratory.
- ! Non-sharps biomedical waste shall be packaged in approved impermeable, red plastic bags. These bags must also be sealed and properly labeled before leaving the laboratory.
- ! Employees who handle biomedical waste as part of their work responsibilities shall be trained in proper waste management before these duties commence and annually thereafter. This training is provided by EHS.
- ! Laboratory personnel handling biomedical waste shall wear appropriate personal protective equipment. This includes, but is not limited to, gloves, gowns, laboratory coats, and face protection.
- ! All biomedical waste known to contain highly infectious agents (e.g. HIV, HBV, or any other significant pathogen) shall be rendered inactive through autoclaving or another approved method before being deposited into the normal biomedical waste stream.
- ! All surfaces contaminated with spilled or leaked biomedical waste shall be cleaned and disinfected. All disinfectants used must be tuberculocidal and EPA approved.
- ! Biomedical waste mixed with hazardous (chemical) waste shall be managed and disposed as biomedical waste. Contact **EHS** for additional information.

- ! Biomedical waste mixed with radioactive material must be clearly labeled as biohazardous. Contact the Radiation Control Center (RCC). for additional information on disposal of this type of mixed biomedical waste.

- ! Biomedical waste may be disposed into a sanitary sewer system if the following requirements are met:
 - N The waste is in a liquid or semi-solid form.
 - N Aerosol formation from the waste material is minimal.
 - N Personal protective equipment is used by the person discharging the waste.

- ! Filled red biomedical waste bags and sharps containers shall be placed in the closest biomedical waste storage container(s) designated in the applicable Unit Specific Biomedical Waste Plan.

EHS approved red bags and sharps containers are available from the Medical School Physical Plant Stock Room. Researchers who choose to order their supplies directly from outside companies must make sure that these impermeable red bags comply with University requirements and State regulations.

Additional information on the containment, handling, and disposal of biomedical waste can be found in the University of Miami's Policy and Procedures for Handling Biomedical Waste. Contact **EHS** for more information.

LABORATORY ANIMAL WASTE DISPOSAL PROCEDURES

All animals and animal waste are considered to be potentially pathogenic and must be handled as such. The University of Miami Division of Veterinary Resources (DVR) coordinates the disposal of animal waste including:

- ! Animal tissue and carcasses.

- ! Animal excrement.

- ! Soiled animal bedding.

- ! Soiled animal shipping containers.

Any of the above materials containing residual radionuclides must be disposed as radioactive waste through the University of Miami Radiation Control Center (see section on Disposal of Radioactive Waste).

General Disposal Procedures for Animals and Animal Waste

Animal tissues, carcasses, excrement, and soiled bedding must be packaged in plastic bags strong enough to contain the material without breaking or leaking. Securely seal the top of the bag by knotting, tying, or taping. Double bagging is recommended for heavy contents.

Tissues, carcasses, excrement, and used bedding from animals which are known to have been exposed to an agent or organism hazardous to humans must be packaged in red biomedical waste bags and appropriately labeled. Contact DVR prior to initiation of the project for additional information and instructions.

Specific Disposal Procedures

Animals and animal waste *must* be disposed through one of the following specific disposal procedures. Do not place any animal or animal waste (tissue, carcass, excrement, soiled bedding, or soiled shipping container) in the normal waste stream.

Animal Tissues and Carcasses

- ! Prior to disposal of animal carcasses, verify that the animal is dead. The most reliable method for preventing recovery of animals from euthanasia by an anesthetic or CO₂ is to incise both sides of the thorax.

- ! Transport properly packaged tissues and/or carcasses to the nearest DVR animal carcass storage facility. These are:
 - " RMSB basement, near animal facility elevators, 7th floor refrigerator near animal elevators.
 - " BPEI, Non-biohazardous waste refrigerator between rooms 325 and 326.
 - " Parkinson, Non-biohazardous waste refrigerator, fourth floor near the animal facility elevator.
 - " Gautier Building, refrigerators on the 6th and 7th floors.
 - " Coral Gables Campus, Behavioral Medicine building room 116.
 - " South Campus, Chest Freezers in Building A.
 - " RSMAS, Refrigeration building, walk-in freezer.

- ! Place the waste inside the plastic containers. Do not place waste on the floor.

Animal Excrement and Soiled Bedding

- ! Transport properly packaged material to the DVR waste disposal facility in the RMSB basement near the animal elevators.

- ! Place the waste inside plastic garbage cans. Do not place waste on the floor.

Used Animal Shipping Containers

- ! Transport to the DVR animal disposal facility located in the RMSB basement. Place in a large gray trash transport cart, or if the cart is unavailable, on the floor outside the refrigerator.