



Health Sciences Campus Biomedical Waste Management Standard Operating Procedure (SOP)

NOTE: This SOP for biological waste management does not supersede the requirements for radioactive and/or hazardous chemical waste management. If your waste biomedical waste is mixed waste (i.e. contaminated with chemicals or radioactive materials) that waste will need to be disposed of according to the recommendations of those safety offices.

Types of Biomedical Wastes

- Solid Biomedical Waste (i.e. plasticware, tubing, pipette tips, gloves)
- Sharps Waste (i.e. needles, glass, scalpels, razor blades)
- Liquid Biomedical Waste (i.e. cultures, stocks, vaccines)
- Pathological Waste (i.e. human tissues, blood and other body fluids)
- Animal Waste (i.e. carcasses, tissues, bedding)
- Chemotherapy Agent Wastes (i.e. any disposable material that has come into contact with cytotoxic/antineoplastic agents including gloves, vials, IV tubing)
- Discarded Contaminated Equipment (i.e. centrifuges, shakers, biosafety cabinets)

Solid Biomedical Waste

Solid biomedical waste should be placed in a biohazard, red-bag lined box (shown to the right), provided by Environmental Services. To request additional biohazardous waste containers, or to request waste pick-ups, please contact 706-721-2434.

- ✓ Liquids or soggy materials should NOT be placed inside the Stericycle red-bag lined boxes.
- ✓ No loose sharp items should be placed in these containers which would puncture the red bags.
- ✓ Do not overfill the boxes. The boxes should be removed when 2/3 full. These containers have a 50 lb. maximum weight limit.



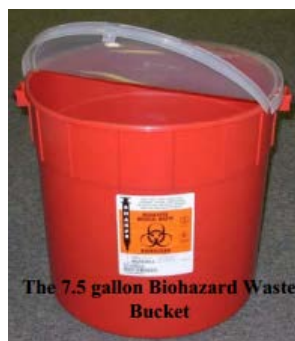


- ✓ Any material of higher hazard (\geq BSL2) should be decontaminated prior to placement into these containers. BSL2+ designated laboratories should follow this practice.
- ✓ Biohazard waste boxes or containers should not be left in unsecured areas (e.g., in hallways or on loading docks) where non-trained personnel or personnel with unknown health status may encounter them. Biohazardous waste, by definition, is hazardous material and must remain secured at all times
- ✓ Items which are not biological waste or potentially contaminated with biological materials should NOT be placed in the biohazardous waste containers.
- ✓ Do not combine the contents of one box into another or lift the bag out of the box.
- ✓ Alternate intermediary biohazard waste containers can be used, provided that:
 - Containers are clearly demarked as biohazardous waste with color-coded labels (e.g., by using red bags or biohazard stickers).
 - The waste in these containers are removed promptly after use and not allowed to linger in these intermediary waste containers.
 - Containers are capable of being decontaminated and are decontaminated often.
 - No sharps are disposed in these intermediary containers (sharps must be directly placed into authorized sharps containers).
 - The waste is transferred to the authorized waste receptacle by the laboratory staff (not the Environmental Services staff).



Sharps Waste

There are two types of sharps containers available upon request from Environmental Services. To request additional sharps waste containers, or to request waste pick-ups, please contact 706-721-2434. These are shown below:





Each of these containers all comply with OSHA BBP standard requirements dictated for sharps containers. These are: closable, puncture-resistant, leak-proof on the sides and bottom, labeled and/or color-coded.

- ✓ Soggy items and small amounts of liquids (e.g., a few ml of blood remaining in a tube) can be disposed in these containers. Larger volumes of liquids should be handled as liquid waste.
- ✓ Containers should be easily accessible and located close to work areas where sharp materials are used.
- ✓ The containers must be maintained upright.
- ✓ These containers need to be replaced routinely. Do not allow these containers to become overfull. These containers should be closed and removed when 2/3 full.
- ✓ Do not remove the lids from these containers or force objects into them.

Liquid Biomedical Waste

- ✓ **MUST** be decontaminated before disposal according to your laboratory or clinic SOPs.
- ✓ Liquids that have been autoclaved or decontaminated using bleach can be disposed of using the sanitary sewer system.
- ✓ Special procedures may be required to deactivate toxins, prior to disposal.
- ✓ **NOTE:** Decontamination with a chemical other than bleach may require special disposal procedures; contact the Chemical Safety Office for guidance (706-721-2663).
- ✓ Caution should be taken not to dispose of any material which may clog sewer disposal pipes.
- ✓ All vacuum aspirator traps/flask **MUST** have either a filter or secondary overflow two flask disposal system to protect vacuum lines from entry of biological fluids.

Pathological Waste

- ✓ Any item which is identifiable as a human or animal body part or an animal carcass needs to be disposed pathological waste. These items must be incinerated.



- ✓ All animal carcasses be packaged and labeled according to LAS/IACUC compliant procedures and placed in one of the necropsy freezers (e.g., in CB-1344, CA-1105, CA-1126, CA-1135, BG-1135A, CL-1119 or CL-1133) or in the cold storage room (CB-3100). Contact LAS about the proper labeling procedures.
- ✓ For disposal of human tissues or body parts, contact the Biological Safety Office (706-721-2663) for proper disposal procedures.

Animal Waste

- ✓ Proper disposal of animal carcasses is described in the pathological waste section.
- ✓ Animal bedding is disposed of based on the hazards. Contact LAS for the proper disposal procedures. Animal bedding generated from ABSL1 or conventional animal housing can be disposed of in the regular trash. Bedding generated from animals housed in an ABSL2 facility will need to be collected and autoclaved prior to exiting the ABSL2 facility.

NOTE: Animal bedding that may contain chemotherapeutic agents, other high hazards chemicals or radioactive materials may require special disposal procedures (i.e. bedding contaminated with chemotherapeutic agents cannot be autoclaved).

Chemotherapy Waste

- ✓ Chemotherapy wastes must be incinerated, as per Georgia EPD Chapter 391-3-4-15. While these agents are often used in clinical therapy, many of these agents may also be used for *in vitro* and *in vivo* animal research applications (e.g., Actinomycin D, Mitomycin-C, Streptozotocin, Bleomycin, GM-CSF, Interleukin-2, INF- α , Gleevec).
- ✓ According to GA EPD, chemotherapy wastes include:
“Any disposable material which has come in contact with cytotoxic/antineoplastic agents (agents toxic to cells) and/or antineoplastic agents (agents that inhibit or prevent the growth and spread of tumors or malignant cells) during the preparation, handling, and administration of such agents. Such waste includes, but is not limited to, masks, gloves, gowns, empty IV tubing bags and vials, and other contaminated materials. The above waste must first be classified as empty which means such quantity that it is not subject to other federal or state waste management regulations prior to being handled as biomedical waste.”

NOTE: "Empty" is generally defined as containing less than 3% by weight of the total capacity of the container.



- ✓ Stock solutions of these chemicals and items that are heavily contaminated must be disposed of as hazardous waste. Call the Chemical Safety Office (706-721-2663) for guidelines concerning the disposal of chemical hazardous waste.

Discarded Contaminated Equipment

- ✓ Equipment that has come into contact with biohazardous materials will need to be decontaminated prior to disposal, transport, surplus, etc. The method of decontamination is dependent upon the equipment and the biohazard that the equipment has come into contact with.
- ✓ Your laboratory SOPs should indicate a disinfection method suitable for the agents used in your laboratory. If you are unsure of the method to use, contact the Biological Safety Office (706-721-2663).
- ✓ Be sure to follow the instructions for the disinfectant (i.e. concentration, contact time).
- ✓ The need for gaseous decontamination of a Biosafety cabinet (BSC) must be evaluated by the Biosafety Office prior to moving. Should a BSC require decontamination, arrangements must be made in advance with Laboratory Equipment Services (LES) (706-721-6124) to perform this service before the BSC can be moved.