REGULATED BIOLOGICAL WASTE DISPOSAL

Overview

Regulated Biological Waste is defined by law as a waste capable of producing an infectious disease because it contains pathogens of sufficient virulence and quantity so that exposure to the waste by a susceptible human host could result in an infectious disease. You may hear terms such as “medical waste,” “biohazardous waste,” “pathological waste,” or “infectious waste”, Environmental Health & Safety (EH&S) treats all of these types of waste as Regulated Biological Waste.

Washington University (WU) treats all of the following as Regulated Biological Waste:

- Isolation wastes: wastes generated by patients who have communicable diseases capable of being transmitted to others via those wastes
- Contaminated surgical, dialysis and lab wastes
- Cultures and stocks of infectious agents and associated biologicals
- Any recombinant DNA-containing materials
- Blood and blood products
- Pathology wastes
- Sharps
- Animal carcasses
- Chemotherapy wastes

The following wastes are not treated Regulated Biological Waste:

- Waste chemicals/reagents
- Acrylamide/ethidium bromide gels
- Any waste contaminated with radioactivity
- DEA Controlled substances
- Bulk Chemotherapy drugs
- Waste containing mercury or other heavy metals

Multi-hazardous Wastes:

Chemical and Regulated Medical Waste:
These wastes should be avoided because they are difficult to dispose of through both our Regulated Biological Waste disposal vendor and our chemical waste disposal vendor. If this type of waste must be produced, try to render the infectious component innocuous by either chemical (e.g. bleach) treatment or autoclave treatment (call EH&S at 362-6816 for the requirements for autoclave treatment). If your waste contains human or animal body parts, organs, tissues and surgical specimen in formaldehyde, formalin or other preservatives handled as Chemical Waste, decant the liquid into a separate container. Submit the liquid as chemical waste and the tissue as Regulated Medical Waste to be incinerated.
Packaging Procedures

Prior to disposal, all Regulated Biological Waste must be separated into two (2) waste streams. These streams must be packaged separately.

- Regulated Biological Waste that must be incinerated. When packaging this material the word “Incineration” must be written on the container. These wastes include:
  - Trace chemotherapy contaminated waste (RCRA empty drug vials, syringes and needles, spill kits, tubing and bags, contaminated gloves and gowns)
  - Human or animal parts, organs, tissues and surgical specimen (decanted of formaldehyde).
  - Pharmaceuticals that are not regulated under RCRA or are not DEA Controlled Substances. See Pharmaceutical Drug Guidelines.
  - Any material required to be incinerated as a condition of a CDC, USDA, Fish & Wildlife, or other agency permit
- All other Regulated Biological Waste can be autoclaved.
  - This includes human and animal, blood and blood products.
  - Cells may be autoclaved.

Packaging of Regulated Biological Waste: It is the laboratory’s responsibility to correctly package the waste.

- All Regulated Biological Waste must be packaged with the tape, in the containers and inner red bags that are provided by the vendor or EH&S.
- These containers are clearly marked with the universal biohazard symbol prominently displayed and labeled “infectious waste” or “biohazard waste”.
- Put the box together by finding the “this end up” orientation and tape the bottom of the box securely.
- There must be an inner red liner inside the container.
- These containers must weigh no more that forty (40) pounds.
- Boxes must be taped shut when full.
- Other containers should be kept securely closed at all times.
- Any liquid must be contained in non glass leak proof containers.
For DOT compliance, there are two ways to properly secure the red bags that contain Regulated Biological Waste.

- Method 1 (Preferred) - twist and tie the red bag in a single knot.
- Method 2 - twist and fold twisted part over. Wrap tape around neck for at least 3 revolutions.
• If your waste contains sharps then the container they are placed in must be a rigid, leak proof, puncture resistant, sealable container. EH&S does not provide sharps containers. They may be purchased through most lab supply companies. [www.labsafety.com, www3.fishersci.com, www.sageproducts.com] Once the sharps container has become two thirds full, the sharp container can be placed in a bio hazard box. Do not over fill sharp containers. If the lab or clinic does not create any other biohazardous waste, the plastic sharps container will suffice for an EH&S pickup.

• Glass containers may not be used as primary storage for infectious material but may be placed into rigid or semi-rigid leak proof containers.

• If your waste contains animal carcasses:
  o If they weigh < 1 Kg they should be frozen in the lab and placed in the biohazard box the day of the EH&S pick-up or taken to back to the Division of Comparative Medicine location from which the animals were distributed.
  o If they weigh >1Kg contact Division of Comparative Medicine location from which the animals were distributed.

Disposal Procedures

Liquid biological waste:

Liquids containing regulated biological waste materials, such as cultures and stocks of microbes, recombinant DNA-containing materials, human and animal blood or body fluids and cell culture media or serum, should be inactivated with a 10 % bleach solution (final concentration) for 20 minutes prior to drain disposal. A Sewer Authorization Form must be submitted to and approved by EH&S for any liquid biological waste containing chemicals or requiring inactivation with a disinfectant other than bleach.

Biological waste boxes:

Danforth Campus

Regulated Medical Waste containers and bags for shipment are maintained by departments with Stericycle accounts. Sharps containers for labs must be rigid, leak proof, puncture resistant, sealable containers. EH&S does not provide sharps containers. They may be purchased through most lab supply companies [www.labsafety.com, www3.fishersci.com, www.sageproducts.com].
School of Engineering (check with your department), Student Health and the Biology Department maintain individual Stericycle accounts. For those departments that do not have a Stericycle account, contact the Biology Stockroom (935-6863) for information regarding disposal.

Medical School Campus

Regulated Medical Waste containers and bags for shipment are available from EH&S. Leave a comment on an online request form or call 314-747-1533 for delivery.

Submit an on-line request for pick-up form on the Environmental Health and Safety website at: [http://ehs.wustl.edu](http://ehs.wustl.edu)

If your lab generates Regulated Biological Waste on a continual basis that is more than three (3) boxes per week. Contact EHS at 362-6735 to arrange a weekly pick up.

- These labs will be provided with a sticker to label their Regulated Biological Waste boxes as theirs to ensure accurate billing.

Other Locations:

If your location’s Regulated Biological Waste is not managed by a Commercial Real Estate Service such as Cassidy Turley or directly by EH&S, then anyone responsible for signing the manifest of shipping papers for the shipment of Regulated Biological Waste must complete the “EHS - DOT Regulated Biological Waste for Shipment” training available at [https://learnatwork.wustl.edu/](https://learnatwork.wustl.edu/). This training must be completed at least every 3 years. Documentation of this training will be required to be available for a Department of Transportation (DOT) Inspector.

Cost

The charge from Environmental Health and Safety will be $9.97 per container for Regulated Biological Waste that can be autoclaved and $24.53 per container for Regulated Biological Waste that must be incinerated.