

Appendix H

Managing Biohazardous Waste SOP

Biohazardous waste is managed under the State of Rhode Island's Regulated Medical Waste Regulations (Regulation DEM-OWM-MW-1-2009, amended July, 2010).

<http://www.dem.ri.gov/pubs/regs/regs/waste/medwaste10.pdf>

Regulated Medical Waste is defined as any waste generated in the diagnosis (including testing and laboratory analysis), treatment (e.g., provision of medical services), or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals, or in the development of pharmaceuticals. Regulated medical wastes mixed with non-hazardous solid wastes shall be considered regulated medical wastes.

This policy governs all University activities involving any of the types of biological waste listed below:

- A. Cultures and Stocks: Cultures and stocks of infectious agents and associated biologicals including: cultures from medical and pathology laboratories; cultures and stocks of infectious agents from research laboratories; wastes from the production of biologicals; discarded live and attenuated viruses; and culture dishes and devices used to transfer, inoculate and mix cultures.
- B. Pathological Wastes: Human pathological wastes, including tissues, organs, and body parts that are removed during surgery or other medical procedures.
- C. Human Blood, Body Fluids and Blood Products:
 - 1. Liquid waste human blood or body fluids;
 - 2. Products of blood;
 - 3. Items saturated and/or dripping with human blood or body fluids;
 - 4. Items that were saturated and/or dripping with human blood or body fluids; including, but not limited to, serum, plasma, and other blood components, and their containers (e.g. blood bags and blood vials) and body fluids as described in Section I, C of the regulation; or
 - 5. Specimens of body fluids and their containers.
 - 6. Human cell cultures
- D. Sharps:
 - 1. Sharps that have been used in animal or human care or treatment, including sharps generated in medical or research laboratories, including, but not limited to, hypodermic needles, syringes with or without the attached needle, Pasteur pipettes, scalpel blades, blood vials, needles with attached tubing, glass carpules, and glass culture dishes regardless of presence of infectious agents. Also included are other types of broken or

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unbroken glassware that have been used in animal or human care or treatment, and used microscope slides and cover slips. Disposable syringes and needles are considered medical waste after one use.

2. Sharps must be segregated and disposed of in leak-proof, rigid, puncture-resistant, shatterproof containers (Sharps containers are available from lab supply vendors). If contaminated with infectious agents, sharps must be rendered non-infectious by autoclaving or chemical disinfection. Sharps containers must be disposed in Biohazard waste boxes. If a Biohazard Waste box is not available, call EHS to arrange pickup when a sharps container is full.

- E. Animal Waste: Contaminated animal carcasses, body parts, and bedding of animals that were known to have been exposed to infectious agents during research, including research in veterinary hospitals, production of biologicals, or testing of pharmaceuticals.
- F. Unused sharps: Unused, discarded sharps, as defined in Section VI, A, d of the regulation.
- G. Spill/Cleanup Material: Any material collected during or resulting from the cleanup of a spill of regulated medical waste.
- H. Mixtures: Any waste which is a mixture of regulated medical waste and some other type of waste which is neither radioactive nor a hazardous waste of a type other than regulated medical waste.

DOT Shipping Regulations as They Apply to Biohazardous Waste

Biohazardous waste is regulated by the RI Dept. of Environmental Management (RIDEM). RIDEM also licenses medical waste haulers to legally transport medical waste from a waste generator's facility in RI to the disposal site or incinerator. Because transportation is involved, a second regulatory layer comes into play: US Department of Transportation (DOT) shipping regulations.

Anyone who offers medical waste for transport (the offeror, i.e. PI), must ensure that the box is prepared in compliance with DOT regulations, which include having proper markings and labels on each box.

Stericycle, our current biohazardous waste vendor, helps make compliance with these regulations straightforward by providing us with pre-printed shipping containers; all labels and markings are in the appropriate positions on the boxes. Lab staff must ensure compliance on their part by setting the box up properly; when complete, the writing must be legible to anyone approaching the box (i.e. the box presented for transport must be right side up). With an upside down box, the offeror (PI) is non-compliant with the hazard communication component of the regulation.

Stericycle will reject all boxes that are improperly prepared, including those that are presented upside down. Stericycle drivers are subject to periodic inspection on the highway. An out of compliance box would translate to a large fine for a driver who accepts an improperly prepared box.

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Preparing Biohazard Waste for Shipment

Biohazard waste boxes and red liner bags for disposal are available from EHS (401-874-7019); in room 275-B College of Pharmacy and from Nasir Hamidzada, CBLs.

It is important to take a few minutes to set the box up properly:

1. **Begin with the box upside down** so the writing is the right way up when finished. Fold the box into shape.
2. Tape the bottom first. Run a central strip of tape the length of the seam where the two flaps meet. Anchor the ends to the sides as shown on the photo below. Then run a strip of tape on each side of the first strip so you use 3 strips per seam.
3. Follow the same procedure for the outer edges of the box. The bottom of the box should look like this:



4. **Flip the box over. The box should now be right side up, and the writing legible.**
5. Tape the flaps to the sides of the box. Line the box with a red bag, carefully fitting it over the edge of the box as shown below. The box is now ready for use.



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NOTE: Do not four-way the top or bottom flaps as shown in the photo below. This is not a secure closure and it will not hold in transit.



FILLING THE BOX

1. The boxes are pre-printed to accommodate 55 pounds. However, ***please do not overfill the box and exceed 35 pounds. The boxes are awkward to move when full.***
2. The red bags are containment for your waste. When sealing the bags for disposal, sharp tips can puncture a hole in the bag and cause a breach in containment. Contaminated lab plastic ware and gloves can be disposed in the box. ***Prohibited items include liquids as well as sharps or other materials that can puncture the red bag, including serological pipettes.***

**If you use serological pipettes to transfer infectious materials, decontaminate them in 10% bleach in a flat Nalgene tray in the BSC, then collect them horizontally in a cardboard box lined with a plastic bag. When the box is full, tie off the bag and seal the box with tape. Label it "Used Pipettes" before disposing to the Dumpster.
DO NOT DISPOSE SEROLOGICAL PIPETTES IN BIOHAZARD WASTE BOXES.**

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SEALING THE BOX

When the box is full and ready to be sealed, follow these simple steps:

1. Squeeze the air out of the bag, twist the top several times and tie into a knot. The box is now ready to be sealed.
3. Seal the top and edges of the box, using three separate offset strips of tape per seam, as described earlier in the set-up instructions
4. Write the PI's name on the top of the box (in Pharmacy use a pre-printed label provided by the college with the PI's name on it).

PICK-UP

1. Pickups are scheduled every other Tuesday.
<http://www.uri.edu/publicsafety/documents/Biohazardpick-upschedule2013rev1.pdf>
2. Call 874-7019 to schedule a pickup at least 24 hours in advance. **NOTE:** if you are in Pharmacy you do not need to call because we stop there automatically.
3. Boxes should be sealed and ready to go by 9:30 am the morning of pick-up at the designated pick-up site.
4. Leave boxes on the loading dock (except College of Pharmacy, see below) unless prior arrangements have been made.
5. If it is raining, leave the box just inside the door so it doesn't get wet. Do not to block the doorway.

BOXES WILL BE REJECTED

Biohazard waste disposal boxes will be rejected if:

1. The boxes are sealed upside down.
2. The seams on the box are not properly taped or are taped with anything other than clear packing tape (i.e. duct tape, masking tape, blue painter's tape).
3. The flaps are "4-wayed" – see photo above.
4. The box is wet. The cardboard box is for dry waste only. Infectious liquids can be autoclaved or decontaminated with 10% bleach and disposed to the sink with running water, or they can be autoclaved and disposed to the sink. Do not add bleach if autoclaving liquids.
5. The boxes are damp because they have previously been stored in a freezer.
6. The box is overweight. While the boxes are printed for 55 pounds, do not exceed 35 pounds per box.

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SPECIAL NOTES

College of Pharmacy

1. Because Biohazard waste is classified as RI Regulated Medical Waste, it must be stored in a locked/secure area. Room 275-B Pharmacy has been permanently designated for this purpose.
2. Waste disposal supplies, including boxes, red bags and tape, are stocked in 275-B. Extra tape is also available in the receiving office. You can find it in the left hand side of the overhead cabinet.
3. Use a hand cart to move full boxes down to room 275-B.
4. Place the box on one of the spill pallets (either red or orange) in 275-B. Do not leave boxes on the floor.
5. Use the pre-printed labels hanging on the north wall of the room to identify which PI the box belongs to.
6. Before leaving the room, verify that the box has been packaged correctly and there is no reason for Stericycle to reject it.
7. ***Under no circumstances are boxes to be left unattended on the loading dock or in the hallway .***

Microbiology Teaching Labs (CBLs)

1. Autoclave BL-1 materials in clear bags (no international biohazard symbol) till the contents are no longer recognizable, and dispose to the Dumpster.
2. Supplies for disposal of BL-2 materials are available from the building manager, Nasir Hamidzada.
3. Autoclave Petri plates and dispose in biohazard waste boxes as RI Regulated Medical Waste.
4. Take the boxes down to the loading dock by 9 am the morning of the pick-up. Do not take them down the night before. Regulated medical waste must be under control of the generator at all times.