

BIOSAFETY  
APPENDIX H  
MANAGING REGULATED MEDICAL WASTE  
(RMW/BIOHAZARDOUS WASTE)

SOP

REV. FEBRUARY 2019

Regulated Medical Waste (RMW/Biohazardous waste/biowaste) is managed under the State of Rhode Island's Regulated Medical Waste Regulations (250-RICR-140-15-1).

<https://rules.sos.ri.gov/regulations/part/250-140-15-1>

RMW 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 to humans or animals, or in the production or testing of biologicals, or in the development of pharmaceuticals. Plasticware used in research is also included in these regulations if it has been used with cell cultures. Regulated medical wastes that are mixed with non-hazardous solid wastes shall be considered regulated medical wastes. Regulated medical waste shall also include certain waste, as listed in this section that is generated in any process where it is likely to have been in contact with human blood or body fluids. Regulated medical wastes mixed with nonhazardous solid wastes shall be considered regulated medical wastes. For the purposes of these regulations, the following categories of medical wastes are Regulated Medical Waste:

This policy governs all University activities involving any of the types of RMW (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; culture dishes, plasticware and devices used to transfer, grow, 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

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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 and glass carpules. Also included are other types of broken or unbroken glassware that have been used in animal or human care or treatment, including used microscope slides and cover slips. Disposable syringes and needles are considered Sharps RMW 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. Dispose all Sharps containers in Biohazard waste boxes. Call EHS to arrange pickup when a sharps container is full if a Biohazard Waste Box is not available in your lab or on your floor.

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 described above.

G. Spill/Cleanup Material: Any material collected during or resulting from the cleanup of a spill of regulated medical waste.

H. Mixtures and Waste in Medical Waste Containers: 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. Also, any waste, when placed in a sharps container, bag with a biohazard symbol, or other container labeled and/or designed for the packaging of regulated medical waste, must be handled and treated as a regulated medical waste, even if the contents may not have previously met the definitions in this section. If the waste is a radioactive and/or a hazardous waste it must also be handled in accordance with Regulations appropriate for radioactive and/or hazardous wastes.

I. Crime Scene/Accident Cleanup Waste: any waste generated by commercial entities hired to clean crime scenes or accidents that are saturated with human blood or are sharps or sharp objects contaminated with human blood.

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**Federal Department of Transportation (DOT) Shipping Regulations as they apply to RMW (Biohazardous Waste)**

RMW is regulated by the RI Dept. of Environmental Management (RIDEM). RIDEM also licenses medical waste transporters to legally transport medical waste from the waste generator's facility to the final disposal site. Because transportation is involved, US Department of Transportation (DOT) shipping regulations also apply when managing RMW.

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.

Our RMW vendor provides pre-printed shipping containers so proper labels and markings are printed in the appropriate locations on the boxes. Lab staff must ensure compliance with DOT regulations by setting the box up properly; when complete, the box presented for transport must be right side up and the writing must be legible to anyone looking at the box. If the box is upside-down box, the offeror (PI) is non-compliant with the hazard communication component of the regulation.

The driver will reject all boxes that are improperly prepared, including those that are presented upside down. Drivers are subject to periodic inspections on the highway. An out of compliance box means a large fine for a driver who has accepted an improperly prepared box.

**Preparing RMW for Shipment**

Biohazard waste boxes and red liner bags are available from EHS (401-874-7019); in room 275-A College of Pharmacy and from Nasir Hamidzada in 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.
2. Fold the box into shape.
3. 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.
4. Follow the same procedure for the outer edges of the box. The bottom of the box should look like the picture below:

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5. **Flip the box over so it is right side up, and the writing is legible from any direction.**
6. 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 bottom or top flaps as shown in the photo below. This is not a secure closure and it will not hold in transit. YOUR BOX WILL BE REJECTED AND YOU WILL HAVE TO RE-PACK IT.**



**FILLING THE BOX**

Although the boxes are pre-printed to hold 55 pounds, **URI LIMITS THE FILL TO 35 POUNDS. BOXES THAT ARE OVERWEIGHT WILL BE REJECTED AND YOU WILL HAVE TO RE-PACK THEM.**

1. Red bags are containment for your waste. Line the box with 2 red bags. Disposable pipet tips as well as contaminated lab plastic ware, lab coats and gloves can be collected in the box.
2. **Red bags must be kept closed except when adding waste.** A twist tie can be used for this.
3. ***Prohibited items include liquids as well as free sharps (not in a proper Sharps container) or other materials that can puncture the red bag, including serological pipettes.***

**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 with tape.
2. Seal the top and edges of the box following the method used earlier on the bottom.
3. Write the PI's name on the top of the box with a Sharpie.

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**PICK-UPS**

1. Pickups are scheduled every other Tuesday.  
The schedule can be found at:  
<https://web.uri.edu/ehs/files/BIOWASTE-PICK-UP-SCHEDULE-2019.pdf>
2. Pharmacy is the only scheduled stop. If you are in Pharmacy you do not need to schedule a pickup. EHS will remove your boxes from 275-A. For all other buildings you can schedule a pickup by calling (401) 874-7019 at least 48 hours in advance, earlier if bad weather is in the forecast as your box may need to be picked up sooner. Boxes should be properly packed and ready to go by 9:30 am the morning of pick-up at the designated pick-up site.  
***NOTE: This is a regulated waste. Do not leave boxes unattended on the loading dock or in the hallway the day/night before the pick-up.***
3. If it is raining, leave the box just inside the door so it doesn't get wet. Do not block the exit.

**BOXES WILL BE REJECTED**

RMW boxes will be rejected if:

1. The boxes are packed 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.

**SPECIAL NOTES**

**College of Pharmacy**

1. Because Medical Waste is a regulated waste, it must be stored in a locked/secure area until it is picked up by the RMW driver. Room 275-A Pharmacy is the temporary storage location. A permanent room will be built off the loading dock in the future.
2. Waste disposal supplies, including boxes, totes, red bags and tape are all stocked in 275-A.
3. When you have filled a box or tote, use a hand cart to move it down to 275-A. Do not allow full boxes to accumulate in the lab.
4. Place the box on the spill pallet in 275-A. Do not leave boxes on the floor.
5. Use a Sharpie to write the PI's name on your box. Don't forget to do this!!

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6. Before leaving 275-A, verify that the box has been packaged correctly and there is no reason for the driver to reject it. **IF REJECTED, YOU WILL HAVE TO REPACK IT.**

**Cell and Molecular Biology and Microbiology Teaching Labs (CBLs)**

1. Autoclave BL-1 materials in clear bags (no international biohazard symbol) till the contents are no longer recognizable, dispose to the Dumpster.
2. Supplies for disposal of BL-2 materials are available from the building manager, Nasir Hamidzada.
3. Autoclave plates and dispose in biohazard waste boxes as RI Regulated Medical Waste.
4. Take the boxes down to the loading dock by 9:30 am the morning of the pick-up. Do not take them down the night before. Regulated medical waste must always be under control of the generator.

**NEW!!**

**SEROLOGICAL PIPETTE DISPOSAL**

**DO NOT DISPOSE SEROLOGICAL PIPETTES IN RMW (BIOHAZARD) WASTE BOXES.  
They can pierce the side of the box and cause a breach in containment.**



**PHARMACY**

**Cell Culture: decontaminate pipettes in 10% bleach in a flat Nalgene tray inside the BSC. If you don't generate a lot of pipettes, collect them horizontally in a cardboard box (like a shipping carton) that has been lined with a plastic bag. When the box is full, tie off the bag, seal the box with tape, label it "Used Pipettes" and dispose to the Dumpster.**

**If your lab generates large numbers of plastic serological pipettes, decontaminate them in the BSC as you use them. When you have finished working, collect them in a 31-gallon tote provided by our waste vendor. Empty totes are available in 275-A. Line the tote with a plastic bag before using to contain any residual liquid. Totes must be kept closed except when adding pipettes.**

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**NOTE**

This is not a traditional RMW waste stream, but we are managing pipettes this way to keep them out of landfill. Our current RMW vendor participates in a waste-to-energy program and this is an opportunity for the University to be environmentally responsible and reduce its carbon footprint.

**ALL OTHER BUILDINGS**

31 gal totes are available from EHS on request. Call (401) 874-7019. If an individual lab doesn't generate enough pipettes for a 31-gallon tote to make sense, several labs might collaborate and share a single tote.

**NEW!!**

**Plastic Pipet Tip and Box Disposal**

Since our RMW vendor participates in a waste-to-energy program, decontaminated pipet tips and boxes can also be disposed in the RMW (biohazard) waste box if the box is lined with 2 red bags, but *do not use RMW boxes for disposal of general lab trash.*