



Standard Operating Procedure for the Disposal of Sharp Objects in Laboratories

I. Disposal of Sharp Objects (Sharps)

This procedure applies to the disposal of sharp objects that are contaminated with any of the following hazardous materials: biological hazards (Infectious agents, human material or rDNA), hazardous chemicals, radioactive materials, and **ALL** blades, needles and syringes, with or without needles, regardless of how they were used. Federal, State and local laws regulate proper disposal of Sharps. These regulations serve several purposes:

1. Prevent personal injury.
2. Prevent contamination of personnel or the environment.
3. Ensure proper containment of laboratory and infectious waste during collection, transfer, and disposal.

All sharps MUST BE collected and disposed in a sharps container, except for non-contaminated lab glass/plastic-ware which may be disposed in a laboratory glass disposal box.

II. What are Sharps?

Sharps are any object with corners, edges, or projections that when inappropriately handled or disposed are capable of cutting or piercing skin, regular trash bags or waste containers. Examples of sharps include:

- Hypodermic needles
- Syringes, including tubing, with or without needles
- Blades (scalpels, razors)
- Sharp dental wires and appliances
- Glass capillary tubes
- Microscope slides and covers contaminated with an infectious agent
- Pasteur pipettes contaminated with an infectious agent
- Serological pipettes contaminated with an infectious agent
- Laboratory glassware contaminated with an infectious agent
- Pipette tips contaminated with an infectious agent

- 'Plasticware' made from plastic polymers which shatter on breakage (culture flasks, petri dishes)

III. Sharps Containers

Availability

Labs are responsible for obtaining their own sharps containers either by:

1. Purchasing Sharps containers that meet the construction requirements stated below.
2. Contracting with a vendor to participate in a Recyclable Sharps Container Program.

Construction Requirements

All sharps containers must meet the following standards:

- rigid
- non-breakable and puncture resistant
- impervious to moisture and leak proof
- have a self-closing lid
- red in color with a universal biohazard label

IV. Labeling Requirements

1. Biohazardous / Infectious Sharps, ALSO including ALL syringes, needles, blades that are not contaminated with chemicals or radioactive materials.



2. Chemically Contaminated Sharps



3. Sharps Contaminated with Radioactive Materials



during use



prior to disposal

4. Non-infectious Lab Glassware Disposal Box



Non-Infectious Laboratory Glassware and Plasticware Disposal in Boxes

Instructions for Laboratory Personnel

This glassware box must be lined with a clear plastic bag. Do not use a red or orange bag.

- The following *non-infectious* materials may be deposited in this **Box**: slides, cover slips, vials, Pasteur pipettes, serologic pipettes, triple-rinsed empty chemical reagent bottles, chromatography plates, broken or fragile glass and plastic labware, such as pipette tips.
- Do not deposit needles, syringes, scalpels, razor blades or other sharps in this container.
- Do not overfill this container.

Instructions for Housekeepers

- Check the weight and integrity of this container before lifting.
- Wear safety glasses and work gloves when handling this container.
- Do not remove this box if you see a red or orange liner.
- Contact your supervisor if you have any questions.

Environmental Health and Radiation Safety
www.ehrs.upenn.edu 215-898-4453 ehrs@ehrs.upenn.edu

V. Collection Procedures

Revised January 31, 2018

Sharps containers **MUST**:

- Be stored near where the waste is generated and segregated from other waste
- Have their lids in place while in use

Sharps containers **MUST NOT**:

- be filled greater than the 2/3 fill line
- be discarded in the regular trash
- contain free liquids, such as full culture tubes or filled syringes

VI. Disposal Procedures

If sharps are contaminated with **Biological Hazards**:

- Dispose of ALL syringes, with or without a needle, blades, and scalpels and other sharps contaminated with a biological hazard in a red, infectious waste sharps container marked with a biohazard symbol.
- Disposable sharps containers need to be autoclaved in advance of disposal. When in doubt contact EHRS.
 - Sharps containers from the Reusable Sharps Container Program (Curtis Bay Energy) are picked up directly by the vendor and do not need to be autoclaved in advance of disposal.
- Sharps containers **MUST BE** disposed as biohazardous / infectious waste according to the Infectious Waste Disposal guidelines for your School or Department.

If sharps are contaminated with **Hazardous Chemicals**:

- Chemically contaminated sharps **MUST NOT** be autoclaved.
- Transfer any quantity of chemical to EHRS for disposal as hazardous waste.
- Place sharps that are contaminated with trace amounts of chemical in a disposable sharps container labeled "*Chemical Contaminated SHARPS – DO NOT AUTOCLAVE*" and dispose of as biohazardous / infectious waste according to the Infectious Waste Disposal guidelines for your School or Department.
- Lab glassware can be triple rinsed and disposed of in glassware disposal boxes (**Except P-listed chemicals and their associated waste**).

If sharps are contaminated with **Radioactive Materials**:

- Sharps must be placed in a disposable sharps container marked with the radioactive materials label. When the sharps container is no more than 2/3 full, deface the biohazard and radioactive materials labels and place the closed container in the appropriate dry radioactive waste container. **DO NOT** discard as infectious waste. EHRS will remove the radioactive waste.
- Transfer to EHRS for disposal as dry radioactive waste. If the sharps container is small enough, it

may be placed in the bag in a standard dry radioactive waste 5 gallon pail. If it is larger it must be collected as a separate waste container.

- Lab glassware may be decontaminated and disposed of in a glassware disposal box if monitoring confirms decontamination was successful.

* **Mixed waste** – If contaminated with any combination of radioactive, chemical, or biological materials:

- Decontaminate biohazard (if present), determine remaining physical hazard (radiation trumps other hazards) and dispose accordingly. If you have a question, contact EHRS prior to disposal

VII. Disposal of Non-contaminated Laboratory Glassware/Plasticware Containers

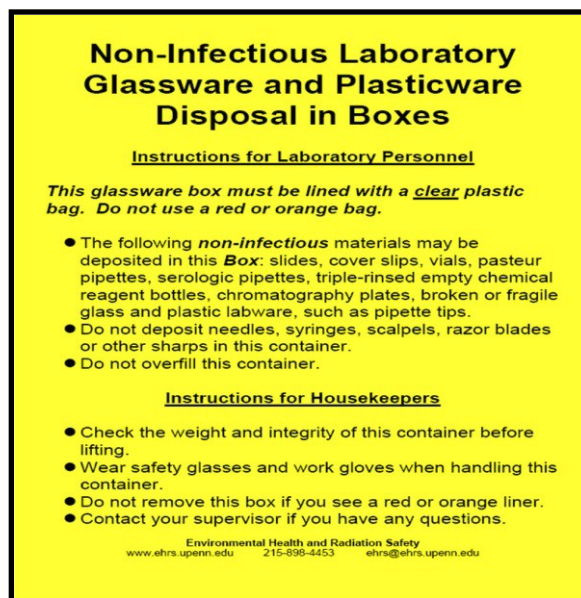
Laboratory glassware boxes are appropriate for collection and disposal of glass- or plasticware that is either intact or broken. It **MUST NOT** be contaminated with chemicals, biological hazards or radioactive materials.

Before Disposal:

- Decontaminate if possible and dispose as Non-Contaminated Glassware.
 - If applicable, check with survey meter or wipe test to confirm absence of radioactivity.
 - Deactivate any infectious agents usually with 1:10 bleach, prior to disposal.
 - Triple rinse empty chemical bottles (**Except P-listed hazardous waste containers**)
 - Deface all hazard labels prior to disposal

Disposal:

- Dispose in a Laboratory Glassware Bucket labeled with “Non-Infectious Laboratory Glassware and Plasticware Disposal” label (see below). Label is available from EHRS.
- Line boxes with a clear heavy plastic bag (included with purchase). **DO NOT** use a red or orange biohazardous waste bag!
- **DO NOT** overfill
- **DO NOT** place free liquids in the glassware container.
- Close lid and seal box with packing tape when full, label as “trash” and dispose as regular trash according to the policy for your building.



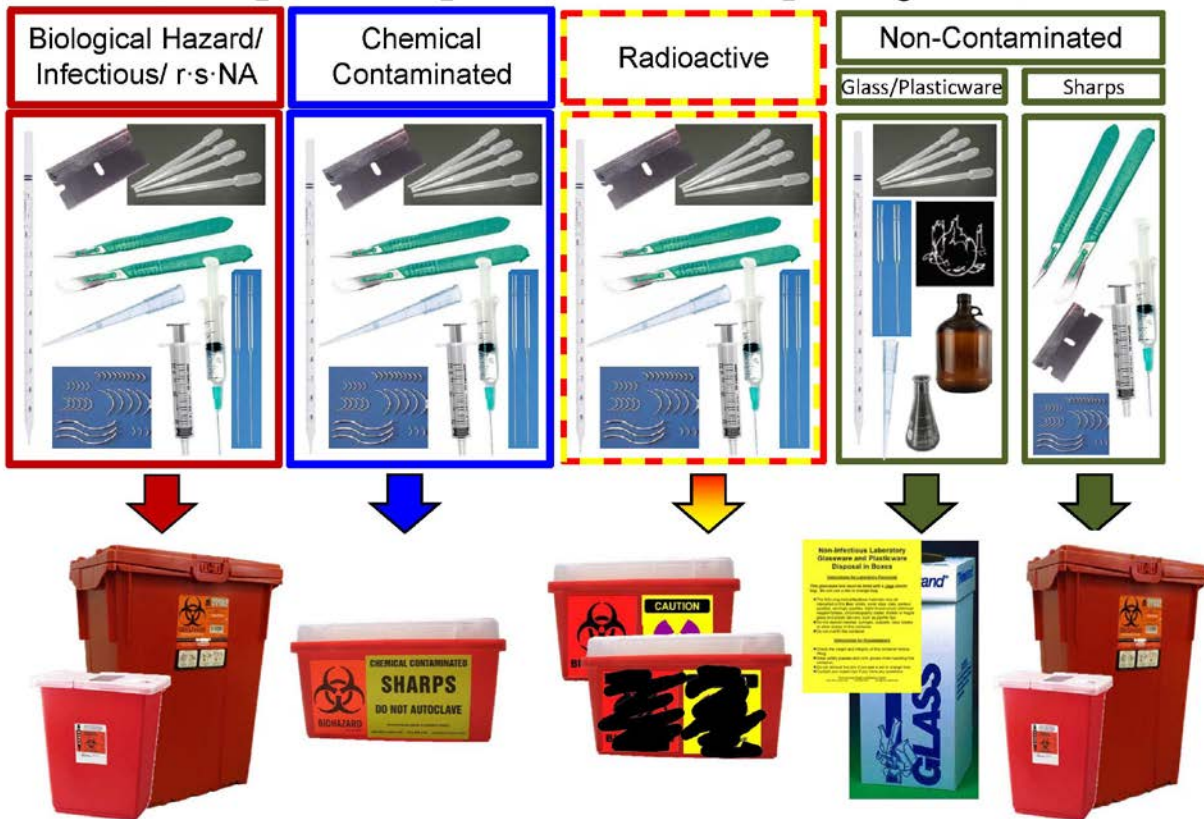
“Non-Infectious Laboratory Glassware & Plasticware Disposal” Label

VIII. References

1. Title 25 [PA Code Chapter 271 Municipal Waste Management](#)
2. [EHRs Radiation Safety Users Guides](#)
3. [EHRs Biohazardous Waste Overview](#)
4. [EHRs Laboratory Chemical Waste Management Guidelines](#)



Proper Disposal of Sharp Objects



Rev. 1/2018