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 or rDNA), hazardous chemicals, radioactive materials, and ALL blades, needles and syringes 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 glassware and pipettes which may be disposed in a laboratory glassware bucket or 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 or regular trash bags or waste containers. Examples of sharps include:

- Hypodermic needles, syringes, tubing
- Blades (scalpels, razors)
- Sharp dental wires and appliances
- Microscope slides and covers
- Glass capillary tubes
- Pasteur pipettes
- Glass slides or cover slips
- Laboratory glassware or plastic 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

V. Collection Procedures

Sharps containers MUST BE:

- stored near where the waste is generated and segregated from other waste

Sharps containers MUST NOT:

- be filled greater than 2/3 full
- 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 in a red, infectious waste sharps container marked with a biohazard symbol.
- Sharps containers do not need to be autoclaved in advance of disposal. When in doubt contact EHRS.
- Deactivate any infectious agents usually with 1:10 bleach, prior to placement in the sharps container.
- Sharps containers, **MUST BE** disposed as biohazardous / infections 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 to EHRS for disposal as hazardous waste.
- Lab glassware can be triple rinsed and disposed as non-contaminated glassware (**Except P-listed hazardous waste containers**).

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

- Sharps must be placed in a 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 as non-contaminated glassware if monitoring confirms decontamination was successful.

If sharps are contaminated with **Non-hazardous Chemicals**:

- Chemically contaminated sharps **MUST NOT** be autoclaved.
- Lab glassware may be decontaminated when feasible and disposed as non-contaminated glassware.

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

- Decontaminate biohazard (if present), determine remaining physical hazard (radiation trumps) and dispose accordingly. If you have a question, contact EHRS before proceeding
VII. Disposal of Non-contaminated Laboratory Glassware/Plasticware Containers

Laboratory glassware/plasticware containers (boxes or buckets) are appropriate for collection and disposal of glass or plastic 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.

**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 plastic bag. **DO NOT** use a red or orange biohazardous waste bag.
- **DO NOT** overfill.
- **DO NOT** place free liquids in the glassware container.
- Triple rinse empty chemical bottles (**Except P-listed hazardous waste containers**) and dispose as Non-Contaminated glassware.
- Seal box with tape when full, label as “trash” and dispose as regular trash according to the policy for your building.

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**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.

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"Non-Infectious Laboratory Glassware & Plasticware Disposal" Label
**References**

1. EHRS Resources Waste Management
2. EHRS Biohazardous Waste Overview
3. Title 25 PA Code Chapter 271 Municipal Waste Management
4. EHRS Radiation Safety Users Guides

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**Proper Disposal of Sharp Objects**

<table>
<thead>
<tr>
<th>Not Contaminated Glassware</th>
<th>Sharps</th>
<th>Biological Hazard / Infectious / rDNA</th>
<th>Chemical</th>
<th>Radioactive</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Not Contaminated Glassware" /></td>
<td><img src="image2" alt="Sharps" /></td>
<td><img src="image3" alt="Biological Hazard / Infectious / rDNA" /></td>
<td><img src="image4" alt="Chemical" /></td>
<td><img src="image5" alt="Radioactive" /></td>
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This pictorial sharps disposal guide is available as a [printable PDF](#).

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