Purpose

Various types of waste including broken glassware, chemical, biological, and radiological are generated in teaching and research laboratories. Each type of waste shall be treated appropriately. This procedure delineates the types of waste most often found in the laboratories and the process developed to dispose of each properly.

Waste that is a mixture of one or more types will require special handling. Contact the Office of Research Compliance, Integrity and Safety, (ORCIS) for consultation and disposal of mixed waste.

Overview

This procedure has been established to comply with applicable state and federal regulations, best management practices, and university policies and procedures. Please contact the appropriate department for disposal of the following types of waste.

<table>
<thead>
<tr>
<th>Type of Waste</th>
<th>Unit Responsible for Disposal</th>
<th>Contact information</th>
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<tbody>
<tr>
<td>Trash</td>
<td>Building Services</td>
<td>815-753-1147</td>
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<tr>
<td>Glassware</td>
<td>Building Services</td>
<td>815-753-1147</td>
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<tr>
<td>Chemical</td>
<td>ORCIS</td>
<td>815-753-1610</td>
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<tr>
<td>Biological</td>
<td>EH&amp;S</td>
<td>815-753-0404</td>
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<tr>
<td>Radiological</td>
<td>ORCIS</td>
<td>815-753-9251</td>
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<tr>
<td>Surplus Equipment</td>
<td>ORCIS</td>
<td>815-753-1610</td>
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</tbody>
</table>

Procedure

Trash
General laboratory trash is collected in trash cans and managed by Building Service Workers (BSWs). Trash contaminated with any type of residual shall not be discarded in the trash. Such trash may be considered hazardous waste and shall be disposed in accordance with the table above.

Glassware
All intact or damaged glassware shall be collected in a structurally-sound cardboard box. Broken or shattered glass shall be collected by mechanical means (brush, broom, forceps etc.). The box shall be labeled as “Broken Glass Only”. When the container is full, tape the box shut and label the box: “Glass for Disposal”—do not overfill the container! Place the taped box adjacent to the trashcans for Building Services to collect for disposal.
Glassware contaminated with biological waste shall be placed in a labeled biohazard sharps container and disposed of as biohazard waste. Glassware contaminated with chemical residue shall be collected in a separate box and disposed of by ORCIS.

**Chemical**

Chemicals and chemical waste shall be disposed of by contacting the ORCIS. No hazardous chemical or substance shall be disposed of into the sanitary sewage system, storm drains, atmosphere, or university trash system.

ORCIS will provide suitable containers for your specific type and volume of waste. Containers will be provided with the appropriate chemical waste labels. These labels must be filled out completely, prior to placing waste into the container. Additional labels can be found at the following link: Chemical Waste Label, [http://niu.edu/divresearch/compliance/resources/forms/Hazardous-Waste-Label.pdf](http://niu.edu/divresearch/compliance/resources/forms/Hazardous-Waste-Label.pdf).

**Biological**

Biological waste items are, contain or are contaminated with:

1. Human or plant pathogens
2. Recombinant nucleic acids (e.g. rDNA)
3. Human blood, blood products, tissues, cultures, cells or other potentially infectious materials
4. Select agents/toxins
5. Cultures
6. Biological toxins or agents
7. Prions or cell lines infected with viruses
8. Consumables used to contain or dispense the above items

Consult NIU’s Institution Biosafety (https://www.niu.edu/divresearch/compliance/bio/ibc/index.shtml) for further information. In addition standard Microbiological practices for the disposal of Biosafety level 1, 2, 3 or 4 identified hazards can be found in the CDC and the NIH publication, *Biosafety in Microbiological and Biomedical Laboratories*. The same document identifies Biosafety levels of biological hazards.

**Biological Waste Disposal**

Biological waste and/or inactivated biological materials must be placed in appropriately labeled, leak-proof containers. For final disposal, waste must be placed in a red biohazard bag that is contained within a cardboard box – both supplied by the vendor contracted by NIU. Once the bag within the cardboard box is filled and sealed, contact your department representative and place in appropriate location for vendor pick up. **Note:** the cardboard box MUST be placed in a leak-proof container when transporting.

**Contaminated Sharps**

Syringes, needles, broken glass, and all other sharps that are contaminated with biological hazardous materials are disposed of according to the procedures
prescribed by the CDC and the NIH in their publication *Biosafety in Microbiological and Biomedical Laboratories* as listed below. Needles must not be bent, sheared, broken, recapped, removed from disposable syringes, or otherwise manipulated by hand before disposal.

a) Used disposable needles and syringes must be carefully placed in conveniently located puncture-resistant containers used for sharps disposal. Once a sharps container is two-thirds full, the lid is closed and the container is placed in the red biohazard bag in the cardboard container supplied by the vendor for disposal.

The respective department and NIU’s Environmental Health and Safety (EHS) are responsible for biological disposals.

**Radioactive**
Separate radioactive waste materials into radioisotopes and physical forms:
1. Dry, solid radioactive waste shall be placed in the clear “Radioactive Waste” bags.
2. Liquid radioactive waste shall be collected in carboys. DO NOT combine isotope liquid wastes. Each isotope shall be collected in separate carboys.
3. Radioactive contaminated sharps are placed in the sharps containers labeled with “Radioactive Material”.
4. Scintillation vials are a separate waste stream and shall be placed in clear radioactive waste bags (double bagged), separate from solid radioactive waste.
5. Source vials shall be packaged in their original container with the radioactive isotope tracking form.

**Mixed Waste**
Mixed waste streams are a combination of multiple waste types, i.e. Radioactive, Chemical or Biological. These types of waste require further analysis to determine the proper method of disposal. Contact the ORCIS prior to generating any mixed waste stream.

**Surplus Equipment**
Equipment that is planned for surplus may contain a variety of hazards such as a Polychlorinated biphenyls (PCBs) oil, Mercury switches, radioactive or laser sources. Contact ORCIS for a review of the equipment to ensure proper removal of these potentially hazardous substances.

**Annual Review**

The Laboratory Safety Committee will review and revise this procedure on an annual basis to reflect operational and procedural changes internal to the University as well as changes to applicable rule, and regulations and consensus standards.

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<thead>
<tr>
<th>Date</th>
<th>Reviewed by</th>
<th>Changes</th>
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<tbody>
<tr>
<td></td>
<td>Lab Safety Committee</td>
<td>Initial</td>
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