

3.14. Biological Waste Disposal Procedures

3.14.1. General

All biological waste from BSL-1, BSL-2, and BSL-3 laboratories must be decontaminated prior to disposal. Decontamination and disposal are the responsibility of the person/laboratory generating the waste. If you do not have access to an autoclave or the autoclave is not functioning, contact IUEHS Biosafety for your respective campus for guidance.

Each campus has specific autoclave use and validation procedures, waste disposal locations and pickup procedures, and vendor arrangements. It is important to follow the correct procedures for the campus where your waste is generated. Vendor requirements must be followed if your waste is picked up by a vendor and the requirements may differ from guidance given by IUEHS.

3.14.2. BSL-1 Waste

Bags and containers of biological waste from lab rooms where **only** BSL-1 protocols are performed, may be decontaminated and discarded with no additional marking or packaging. Follow your campus-specific procedures for packaging, decontaminating, and disposing or arranging for pickup.

3.14.3. BSL-2 and BSL-3 Waste

All bags and containers of biological waste from lab rooms where BSL-2 or BSL-3 protocols are performed must be decontaminated and marked as "treated biohazard waste" prior to disposal in designated containers for treated infectious waste. In lab rooms where multiple levels of biological waste are generated, **ALL** biological waste generated in that room must be packaged, decontaminated, and disposed according to the highest BSL level that is performed in the room.

A label, pictured below, must be properly completed and affixed to each bag or container after autoclaving. Blank labels will be available in the stock rooms and autoclave rooms, or from IUEHS. Follow your campus-specific procedures for packaging, decontaminating, and disposing or arranging for pickup.

Contains Treated Biohazard Waste
Material may be disposed as municipal
solid waste per 410 IAC 1-3-26(c).

From: (Building and Room #)

Method of Treatment:

Autoclaved

Chemically disinfected

Other

Lab Contact Name and Phone #:

Signature:

3.14.4. Reusable Labware

Items such as culture flasks and centrifuge bottles are decontaminated by lab personnel before washing by one of two methods.

- Autoclave items that have been collected in an autoclavable container.
- Chemically disinfect items by soaking in diluted disinfectant for one hour before washing.

3.14.5. Disposal of Blood Products and Body Fluids

All human blood and other potentially infectious materials (OPIM) must be handled using Universal Precautions under BSL-2 biocontainment. Follow your campus-specific procedures for packaging, decontaminating, and disposing or arranging for pickup of these wastes.

3.14.6. Disposal of Sharps and Disposable Glassware

Sharps are items that are capable of cutting or penetrating skin, or items that could reasonably be expected to become capable of cutting or penetrating skin during normal use or disposal.

When these items are contaminated with biological materials, they must be handled in accordance with this manual, as referenced below in sections 3.14.6.1 through 3.14.6.4, and your campus or vendor specific decontamination, packaging, and disposal procedures. If you have these items that are not contaminated, or contaminated with non-biological materials, they must be handled in accordance with the IU Waste Management Program or the IU Radiation Safety Manual.

3.14.6.1. Examples of sharps that must be disposed in puncture-proof, commercial sharps containers:

- Needles
- Syringes
- Scalpels
- Razor and Microtome blades
- Lancets
- Glass Pasteur pipettes
- Glass slides and coverslips
- Broken glass
- Broken capillary tubes
- Exposed ends of dental/orthodontic wires

3.14.6.2. Examples of sharps that must be disposed in closable, puncture-resistant, rigid, autoclavable containers such as cardboard boxes or autoclave bins or tubs with lids:

- Intact glass labware
- Broken plastic labware that has produced shards or jagged edges
- Broken wooden items, such as swabs, that have splintered or have sharp points

3.14.6.3. Examples of items that are generally not sharps, but could puncture bags or boxes:

- Broken plastic labware that has not produced shards or jagged edges
- Intact wooden items such as swabs
- For intact, rigid plastic items and items that you are unsure of, contact your campus Biosafety Office for packaging guidance.

3.14.6.4. Examples of items that are not sharps:

- Soft plastic items, such as tubing and transfer pipettes
- Rubber items
- Paper and cloth items

3.14.7. Multi-hazard or Mixed Waste

Avoid generating mixed waste if possible. Keep volume to minimum.

Do not autoclave mixed waste, i.e., chemical waste combined with biological waste.

When discarding waste containing an infectious agent and radioactive material, inactivate the infectious agent first, then dispose as radioactive waste. Seek advice from the Radiation Safety Officer (RSO) for your respective campus before beginning inactivation procedures.

When discarding waste containing an infectious agent and a hazardous chemical, inactivate the infectious agent first, then dispose as chemical waste. Seek advice before beginning inactivation procedures. Contact IUEHS Biosafety for your respective campus for assistance.

3.14.8. Disposal of Animal Tissues and Carcasses

Follow campus specific waste handling procedure for the disposal of animal carcasses/tissues for your respective campus.

Disposal of animal carcasses/tissues that are contaminated with radioactive materials requires special handling. Disposal instructions are available by contacting Radiation Safety for your respective campus.

3.14.9. Disposal Containers

Each laboratory is responsible for purchasing containers for the disposal of biological waste. The following types of containers are available:

3.14.9.1. Biological Sharps Containers

Sharps containers may be purchased from laboratory product distributors. They are available in various sizes, and must be puncture resistant, not red in color, labeled as "sharps," have a visible biohazard symbol, and have a tightly closing lid. Do not purchase "needle-cutter" devices, which may produce aerosols when used.

3.14.9.2. Hard plastic autoclave tub

Hard plastic autoclave tubs may be purchased from laboratory product distributors. They are available in various sizes. They must have a lid.

[Example of an acceptable autoclave tub:](#)



3.14.9.3. Pipette washers

Pipette washers can be used to chemically decontaminate serological pipettes. They can be purchased from laboratory product distributors and are available in various sizes.

Example of an acceptable [pipette washer](#) and [basket](#)



3.14.9.4. Cardboard box

Cardboard box must be closable and must be placed into an autoclave tub large enough to fit the entire box.

3.14.9.5. Biohazard Autoclave Bags

May be purchased from various laboratory product distributors, such as Fisher Scientific, VWR, and Baxter. Be sure to select polypropylene bags that are able to withstand autoclaving. Red biohazard autoclave bags are no longer permitted for laboratory use. They should be placed inside a rigid container with lid while waste is being collected. The rigid container must have the biohazard symbol.

3.14.9.6. Glass Disposal Boxes

May be purchased from various laboratory product distributors. Alternatively, heavy-duty, closeable cardboard boxes may be used for disposal of broken glass. They should be lined with a clear plastic bag and the bottoms reinforced with tape. Glass disposal boxes are only to be used for the disposal of non-biohazard glass.