

Appendix J: Sharps and Laboratory Glass

Is it a Sharps, Laboratory Glass or Plastic Pipette Tips?

There is a difference between "sharps" waste, "laboratory glass" waste and "plastic pipette tips" and it is important to understand the difference and handle these wastes accordingly.

SHARPS

"Sharps" are a restricted waste and must not be disposed in the regular waste stream. The term "sharps" is a regulatory waste classification associated with ***those instruments used to puncture, cut, or scrape body parts*** and that, as waste, can cause punctures or cuts to solid waste handlers or the public. Sharps must be handled with special precautions and any instrument listed below, that looks like it is meant to be used in this manner, must be disposed as "sharps" waste.

The sharps definition includes, but is not limited to, the following "SHARPS" items:

- Hypodermic needles
- Syringes (plastic, glass or metal) still connected to the needle
- Sharp or broken glass contaminated with biohazardous materials
- IV tubing with needles attached & suture needles
- Lancets
- Scalpel blades
- Glass pasteur pipettes & glass capillary tubes (please see additional information in the "Laboratory Glass" section below)
- Microtome blades
- Dental scalers
- Razor blades
- "Other" sharp metal laboratory waste

LABORATORY GLASS

Uncontaminated, non-sharp and unbroken "Laboratory Glass" is not a restricted waste and can be disposed in the regular waste stream *after* placement in appropriate packaging to prevent breakage. Uncontaminated broken laboratory glass must be placed into a container (closable and puncture resistant) labeled "Broken Glass" prior to disposal in the regular waste.

As an alternative to management as a sharps waste, glass Pasteur pipettes and glass capillary tubes may be managed with uncontaminated broken laboratory glass as described above. In this case, if the pipettes were used with biohazardous materials, they must be autoclaved first. If used with chemicals, the pipettes must be empty (which includes those pipettes with only de minimis surface contamination). If used with radioactive materials, the pipettes may not be disposed as "Laboratory Glass" but must be managed with other radioactive waste.

Before disposing of any laboratory glass in the regular waste stream, contact the local building custodial staff for specific handling procedures in the area. This process will minimize the potential punctures or cuts to solid waste handlers or the public.

PLASTIC PIPETTE TIPS

Uncontaminated plastic pipette tips are not a restricted waste and can be disposed in the regular waste stream *after* placement in a container which will eliminate the potential of punctures and cuts to solid waste handlers or the public.

The following are not sharps:

- Non-sharp laboratory glass
- Plastic items (except for syringes still connected to the needle)
- Beverage containers
- Plastic pipette tips
- Solvent bottles
- Light bulbs
- Any paper material
- Aerosol cans or cans of any type
- Any scintillation vial not containing biohazardous material
- Items with liquid (except for blood in vacutainers)

Handling, Storage and Disposal of Laboratory Sharps

HANDLING LABORATORY SHARPS

The best way to prevent cuts and sticks is to minimize contact with sharps. That means disposing of them immediately after use. The first step is to obtain an appropriate sharps disposal container. These Sharps containers are closable and puncture resistant on the sides and bottoms, and available in 1-quart, 2-gallon, and 8-gallon sizes. Sharps disposal containers must be easily accessible to laboratory personnel, labeled and located as close as feasible to the area where sharps are used. These Sharps containers are available from University Hospital Materials Management (882-2805) or commercial sources.

When discarding sharps:

- Never bend, shear, break, or recap disposable needles or remove from disposable syringes.
- Immediately following use, place the item into the sharps disposal container.
- Never reach into the sharps disposal container.
- Never empty the contents of the sharps disposal container into another container.
- Never remove the lid from the container.
- Never overfill a sharps disposal container; no materials should be sticking out the top.
- Never force materials into a sharps disposal container.

Working with laboratory sharps is a major hazard that needs to be reviewed and included during the risk assessment process (refer to [Section 4.3.3](#) for specific requirements) for minimizing laboratory personnel exposure. Two of the major risks when using sharps are accidental injection and the creation of aerosols. Needles and syringes should only be used when there is no reasonable alternative. If there is no feasible alternative to recapping, bending, or removal of non-disposable needles, a mechanical device or one-handed technique must be used. It is feasible to recap using the one-handed “scoop” technique: use the needle itself to pick up the cap, and push the cap and sharp together against a hard surface to ensure a tight fit. It is also possible to hold the cap with tongs or forceps to place it on the non-disposable needle. Also, air bubbles and the creation of aerosols should be minimized when filling a syringe. Work that may create biohazardous aerosols must be performed in a certified biological safety cabinet whenever possible.

STORAGE OF LABORATORY SHARPS

It is required by law that the four kinds of used sharps be kept segregated by their type of contamination which will also make the sharps disposal less expensive and less complicated. For storage and disposal purposes there are four kinds of sharps:

- Uncontaminated
- Biohazardous Material contaminated
- Hazardous Material contaminated
- Radioactive Material contaminated

Laboratory sharps must be stored in an authorized sharps container that indicates the kind(s) of sharp contamination present. It is red in color and equipped with a tight-fitting lid for use during handling and transport. Biohazardous contaminated sharps must be labeled with an International Biohazard Symbol. Read the authorized sharps container manufacturer’s instructions and recommended user training information prior to use.

The four major criteria for sharps container safety performance are: functionality, accessibility, visibility and accommodation. This criteria includes closure mechanisms, stability, size, shape, mounting brackets, opening/access mechanism, handles, placement location, installation height, fill status, labeling, illumination, security, portability (if necessary), ease of assembly, operation, storage and flexibility of design. Contact the Biological Safety Professional for specific information.

DISPOSAL OF LABORATORY SHARPS

All sharps must be disposed of in authorized Sharps containers indicating kind(s) of sharp waste contamination present. Once containers are filled, biohazardous contaminated sharps must be autoclaved (if feasible) and disposed through the Environmental Health and Safety Biohazard waste disposal program. **Laboratory sharps can not be placed with regular trash.** Care must be taken to follow these procedures to prevent serious injury and violation of regulations

If at all feasible, autoclave the biohazardous material sharps container. Place a piece of autoclave tape over the biohazard symbol on the container prior to autoclaving. The vent holes on the lid should not be covered during the autoclave cycle. After autoclaving, re-label the container as “Uncontaminated Sharps Waste” with the room number and principal investigator’s name. Seal the labeled container and place the full sharps container into the EHS or authorized biohazardous waste vendor’s box or plastic tote provided at the designated collection point. Collection points for biohazards do not require a PURF and are available at several locations on campus that may be convenient for some laboratories. If you do not know the designated collection point for your

building, contact EHS (882-3736) for the nearest collection point location and to determine availability. If a collection point is not available, you will need to use and complete the Pick-Up Request Form (PURF). Large plastic buckets used for glass pasteur pipettes are not autoclavable so they must not be used for items with biohazardous contamination.

If the "sharps" were used with hazardous material, radioactive material, cannot be safely autoclaved, or you do not have an autoclave in your laboratory, contact EHS for information on alternatives. All untreated laboratory sharps containers must be labeled with the type(s) of waste contamination present, sealed appropriately, and placed into the EHS or authorized biohazardous waste vendor's box or plastic tote provided at the designated collection point for your department.