



Date Issued: January 2008	Page No.: 1	Document No.: SOP-Safety-12
Revision: 2.0	Subject: Sharps Disposal	

1. Purpose

The Standard Operating Procedure (SOP) for sharps disposal was developed by the Department of Environmental Health & Safety in accordance with the University's Policy Statement on Health and Safety and to ensure compliance with all applicable legislation and guidelines.

This SOP applies to the disposal of all sharps at Queen's University to ensure the safety of all faculty, staff, students and external waste handlers.

For easy reference, refer to the flowchart in Appendix A

2. Applicable Legislation

Occupational Health & Safety Act, 1990
 Public Health Agency of Canada Laboratory Biosafety Guidelines, 3rd edition, 2004
 Canadian Nuclear Safety Act and Regulations
 Ontario Regulation 347, General – Waste Management
 Guideline C-4: The Management of Biomedical Waste in Ontario

3. Responsibilities

3.1. Directors, Department Heads & Managers

Each has the following responsibilities under this SOP:

- To ensure that pertinent supervisors and employees are notified of their responsibilities when working with or disposing of sharps and glassware;
- To ensure that procedures, equipment and materials appropriate for the specific work locations under his/her authority are provided to protect the health and safety of all employees;
- To ensure that all employees are given adequate supervision and instruction on the hazards associated with the use and disposal of sharps and glassware;
- To ensure that the components of this SOP are implemented in all facilities under his/her authority.



Date Issued: January 2008	Page No.: 2	Document No.: SOP-Safety-12
Revision: 2.0	Subject: Sharps Disposal	

3.2. Supervisors

Supervisors must be knowledgeable about hazards and the appropriate standard operating procedures for work involving sharps and glassware in locations under his/her authority. In addition, he/she has the following responsibilities:

- To ensure that employees are familiar with the hazards associated with sharps and glassware, as well as the standard operating procedures for proper disposal;
- To ensure that all employees act in accordance with the standard operating procedures for sharps and glassware disposal;
- To ensure that appropriate equipment and materials are used by all employees;
- To promptly report known or suspected sharps related incidents, unsafe conditions or unsafe procedures, including improper disposal of sharps, to the Department of Environmental Health & Safety.

3.3. Employees and Students

Employees and students have the following responsibilities:

- To be familiar with the hazards and the pertinent standard operating procedures associated with using and disposing of sharps and glassware;
- To work in accordance with written standard operating procedures for sharps and glassware disposal;
- To use the appropriate equipment and materials provided for work with sharps;
- To promptly report any known or suspected accidents, unsafe conditions or unsafe procedures, including improper disposal of sharps, to his/her supervisor.

4. Definitions

Sharps

A sharp is any object or device having corners, edges, or projections capable of cutting or piercing the skin. Queen's University's definition of sharps includes both contaminated sharps (biohazardous, radioactive, chemical) and uncontaminated sharps that pose a threat to custodians or other personnel.



Date Issued: January 2008	Page No.: 3	Document No.: SOP-Safety-12
Revision: 2.0	Subject: Sharps Disposal	

Uncontaminated Sharps

These are sharps that are free of biohazardous, chemical and radioactive contamination. However, for the protection of custodial, laboratory personnel and external waste handlers and to reduce public concern, uncontaminated sharps must be disposed of in accordance to this procedure.

Waste Glassware

Waste glassware is any item that can not be recycled and is free of biohazardous, chemical and radioactive contamination, but could puncture a regular trash bag potentially causing injury to someone handling the trash bag. This includes intact glassware that could potentially break during waste handling activities.

Sharps Containers

Approved containers are those that are red in colour, specifically design for the disposal of sharps and meet the requirements of CSA Standard Z316.6.95 (R2000). They must be puncture-resistant and leak proof. Approved sharp containers must also have a lid which can not be removed once it has been permanently closed.

5. Procedures

5.1. General Sharps Disposal Procedures

Typical sharps that are used in non-biohazard areas include:

- Needles
- Needles with syringes
- Blades (razor, xacto, scalpels, etc.)

In order to ensure the safety of everyone in, or accessing, a work area, sharps must not be left unattended where they could injure others.

Used disposable needles and syringes must be placed, intact, directly into an approved red sharps container without attempting to recap, cut, shear, bend or remove the needle.

Since these are noncontaminated sharps, remove or cover any biohazard symbols or labeling that states biohazardous or infectious waste. Label the container "Uncontaminated Sharps".



Date Issued: January 2008	Page No.: 4	Document No.: SOP-Safety-12
Revision: 2.0	Subject: Sharps Disposal	

Sharps containers for needles, syringes, blades, etc., should never be placed in the normal waste container. Sharps containers must be transferred by department staff or students to the nearest waste pick-up location as outlined in SOP-Chem-01 (Hazardous Waste Disposal). For infrequent pick-ups or for pick-ups from areas or buildings not listed in the regular waste pick-up locations, disposal can be arranged by completing the form on the Environmental Health & Safety website.

Sharps are also generated in non-biohazard areas like chemical laboratories, shops, and offices. These sharps, even though they are not contaminated with biohazardous, radioactive or chemical waste, must also be disposed of in approved red sharps containers. Sharps must not be put into glass jars, bottles cans, etc. These items can break or be punctured leading to potential injuries during the disposal process. This procedure is in place to protect custodians, other Queen's employees and external waste handlers from puncture wounds.

5.2. Biohazardous Sharps and Glassware

Biohazardous sharps and glassware are contaminated with biohazardous material, but are not chemically or radioactively contaminated.

Typically biohazardous sharps include the following:

- Needles
- Needles with syringes
- Needles from vacutainers
- Needles and with attached tubing
- Blades (scalpels, razors, etc.)
- Contaminated Pasteur pipettes
- Contaminated glass slides
- Contaminated broken glass

In order to ensure the safety of everyone in, or accessing, a work area, sharps must not be left unattended where they could injure others.

Used disposable needles and syringes must be placed, intact, directly into an approved red sharps container without attempting to recap, cut, shear, bend or remove the needle.

Biohazardous sharps must be disposed of in approved containers and must be labeled with the words "Sharps Waste", the biohazard symbol and the word "Biohazard".



Date Issued: January 2008	Page No.: 5	Document No.: SOP-Safety-12
Revision: 2.0	Subject: Sharps Disposal	

Sharps containers must be placed in the laboratory as close a possible to the area where sharps waste is generated.

Do not overfill sharps containers. Sharps must not be forced into sharps receptacle, but should fit easily into the container being used. Close the lid on the sharps container when it is 3/4 full. Often the appropriate fill line is indicated on the sharps container.

Immediately before removing the sharps container from a biohazard laboratory, its entire outer surface must be disinfected using a disinfectant that is effective for all biohazardous material in use in that laboratory. Full sharps containers should be transported by departmental staff or students to the nearest biohazard waste pick-up location for removal by the Department of Environmental Health and Safety as per SOP-Chem-01 (Hazardous Waste Disposal). Sharps containers for needles, syringes, blades, etc., should never be placed in the normal waste container even if autoclaved.

Glassware that is contaminated with biohazardous material must be decontaminated through autoclaving or chemical disinfection before disposal. After decontamination, glassware can be disposed of using the procedures listed below for glassware.

Long pasture pipettes contaminated with biohazardous material should be disinfected, either through autoclaving or chemical disinfection, before disposal. Due to the unique hazards associated with long pasteur pipettes, after decontamination, they should be disposed of as oversized glassware using the procedures below for waste glassware.

If it is not feasible to disinfect long pasture pipettes, then they must be incinerated as biohazardous waste. Contaminated long pasture pipettes can be collected in a box that is not made from glass (such as those available through lab equipment suppliers) or a cardboard box sized to fit pipettes. Boxes must be lined with an autoclave bag (2 mil) to prevent leaks. Boxes must be labeled with the words "sharps", the biohazard symbol and the word "biohazard" on at least two sides.

5.3. Chemically Contaminated Sharps and Glassware

These are sharps that are contaminated with hazardous chemicals, but are free from biohazardous or radioactive contamination.

These sharps must be disposed of using an approved sharps container labeled with the phrase "Chemically Contaminated Sharps". Deface or remove any biohazard labels or markings.



Date Issued: January 2008	Page No.: 6	Document No.: SOP-Safety-12
Revision: 2.0	Subject: Sharps Disposal	

When disposing of chemically contaminated sharps, chemical incompatibility needs to be considered. It may be necessary to segregate chemically contaminated sharps in different sharps containers based on compatibility. Full sharps containers must be disposed of as chemical waste in accordance with SOP-Chem-01 (Hazardous Waste Disposal).

Broken mercury thermometers should not be placed in a sharps container. After the sharp edges are taped over, it may be placed in a plastic bag to prevent the mercury from being released and disposed of by contacting the Department of Environmental Health and Safety.

Chemically contaminated glassware should be decontaminated whenever possible by triple rinsing. The resulting rinse liquid must be collected and disposed of following the procedures outlined in SOP-Chem-01 (Hazardous Waste Disposal). Once decontaminated, glassware can be disposed of using the glassware disposal procedure outlined below. If decontamination of glassware is difficult, it is contaminated with an extremely toxic chemical, or with gross amounts of chemicals, the glassware must be disposed as per SOP-Chem-01 (Hazardous Waste Disposal).

5.4. Radioactive Sharps and Glassware

These are sharps contaminated with radioactive materials, but are free from biohazardous contamination.

Radioactive sharps must be placed in an approved red sharps container and labeled with a yellow radioactive waste tag. Deface or remove any existing biohazard labels or markings.

As with all radioactive material, radioactive sharps must be disposed of in accordance to the Radiation Safety Manual.

5.5. Mixed Contamination

If sharps become contaminated with a mixture of hazardous components during use, treat as follows:

- Biohazardous and hazardous chemical: Decontaminate the biohazard agent, if it safe to do so, and manage as chemically contaminated.
- Radioactive and hazardous chemical: Manage as a radioactive sharp.
- Biohazardous and radioactive: Decontaminate the biohazardous agent, if it safe to do so, and manage as a radioactive sharp.



Date Issued: January 2008	Page No.: 7	Document No.: SOP-Safety-12
Revision: 2.0	Subject: Sharps Disposal	

- Biohazardous, radioactive and hazardous chemical: Decontaminate the biohazardous agent, if it is safe to do so, and manage as a radioactive sharp.

5.6. Waste Glassware

Waste glassware is any broken item that could puncture regular trash bags and potentially cause injuries to someone handling the trash bag. Waste Laboratory glassware also includes intact glassware that has the potential break during waste handling activities. Waste laboratory glassware included, but is not limited to:

- Broken glass
- Bottles
- Flasks
- Pasteur pipettes
- Glass slides and cover slips
- Glass vials

If waste glassware is contaminated by a biohazard, radioactive and/or chemical, refer to the appropriate subsection under Section 5.0 for the appropriate disposal procedures.

Waste laboratory glassware that cannot be recycled and is free from biohazardous, radioactive and chemical contamination must be disposed as per the Physical Plant Services Lab Glass Disposal SOP (SOP #3.21), by placing the waste glass into round, white plastic, 10 gal. containers with no lids. These containers should be clearly labeled with a green sign indicating "Lab Glass Disposal Only". For information on acquiring containers and labeling, contact Physical Plant Services.

Custodial Staff from Physical Plant Services will empty these containers as per the Lab Glass Disposal SOP (SOP #3.21).

Oversized waste laboratory glassware, may be carefully boxed for collection using an ordinary cardboard box. The box must be sturdy, with the bottom seams taped. Before pick-up the box lid must be closed and the seams secured with tape. The box must be labeled on two sides with the words "oversized waste glass". Items placed in the box must be free from biohazardous, radioactive and chemical contamination.

Due to the unique hazards associated with long glass pasteur pipettes, they should be considered oversized waste laboratory glassware. Uncontaminated long glass pasteur pipettes can be placed in a box (such as those available through lab equipment suppliers) or a cardboard



Date Issued: January 2008	Page No.: 8	Document No.: SOP-Safety-12
Revision: 2.0	Subject: Sharps Disposal	

box that is sized to fit the pipette. The requirements for securing and labeling the box are the same as those listed above.

Oversized waste laboratory glassware and long pasteur pipettes will not be collected if they are not packaged as described above.

6. Auditing

The Department of Environmental Health and Safety reserves the right to randomly select departments for inspection to verify compliance with this procedure.

Revision History

February 2007 – Initial Release

January 2008 – Revision 2.0 (addition of Appendix A)