

UTSC Biological Waste Procedures

Within the SW111K Hazardous Waste Storage Facility, Room SW111A is designated as the Biowaste Storage Room for Risk Group 2 (RG2) waste. There are 4 grey biohazard waste totes inside the room. The grey totes are periodically picked up by an external waste contractor for disposal. There are also red pails designated for holding anatomical / cytotoxic waste, including animal and animal bedding waste.

Note: Animal/Bedding waste is RG2/cytotoxic and should **ONLY** be handled by Vivarium staff. This waste is periodically picked up by an external waste contractor for incineration.

Biological waste includes:

- Liquids such as used cell culturing media, supernatant, blood or blood fractions (serum), etc., which contain viable biological agents;
- Materials considered pathological, including any part of the human body, tissues and bodily fluids, but excluding fluids, extracted teeth, hair, nail clippings and the like that are not infectious;
- Any part of an animal infected (or suspected to be infected) with a communicable disease;
- Non-sharp, solid laboratory waste (empty plastic cell culture flasks and petri dishes, empty plastic tubes, gloves, wrappers, absorbent tissues, etc.) which may be, or is known to be, contaminated with viable biological agents;
- All sharp and pointed items used in medical care, diagnosis, and research, including the manipulation and care of laboratory animals, which should be considered potentially infectious;
- Laboratory glassware that is known or suspected to be contaminated with hazardous biological agents.

Containment level 1 labs generate Risk Group 1 waste and containment level 2 labs may generate both Risk Group 2 and Risk Group 1 biowaste.

A. Disposal of Biosafety Risk Group 1 (RG1) Waste

Biosafety RG1 waste from containment level 1 labs should **NOT** be disposed of in the Biowaste Storage Room (except for sharps – refer to Section C below). All solid and liquid RG1 waste must be pre-treated (made non-viable) before disposal in the regular waste stream.

Biosafety RG1 waste should be collected in an appropriate bag or container that can withstand autoclave temperatures and autoclaved.

Note: Autoclavable bags and containers must be closed but **NOT sealed airtight** before they are placed into the autoclave chamber. This will allow proper steam penetration and equalization.



1. Liquid RG1 Waste

- a. Use a container with loose covering (e.g. aluminum foil, cotton plug, loose lid).
- b. After autoclaving, liquid waste made innocuous can be disposed of via the laboratory drainage system. Flush with sufficient clean water to purge the drain immediately after disposal of all liquids.

Notes:

- No liquefied agar should be disposed of down the sink.
- Significant amounts of chemicals should never be autoclaved.

2. Solid RG1 Waste

- a. Use an autoclave bag or other autoclavable container without the biohazard symbol. For items which may puncture an autoclave bag (e.g. disposable pipette tips), use a box or pail.
- b. After autoclaving, solid waste can be disposed of in the regular garbage stream.

B. Disposal of Biosafety Risk Group 2 (RG2) Waste

Note: Autoclaving is not an option for RG2 Waste at UTSC.

1. Biosafety RG2 waste should be collected and sealed in an appropriate bag or container:
 - a. Liquid waste – must be chemically disinfected prior to disposal.
 - b. Solid waste – use autoclave bags with the biohazard symbol. For items which may puncture an autoclave bag (e.g. disposable pipette tips), use a box or pail.
2. Biohazard autoclave bags or containers must be placed in a secondary containment bag with an appropriate biohazardous waste label adhered to the bag.
3. Waste labelling: Biosafety Certificate number and Room Number **MUST** be legibly written on the bag or lid of the waste pail.
4. Gloves should be changed before leaving a RG2 lab to avoid contamination outside the lab.
5. Waste must be transported to the Biowaste Storage Room located in SW111A.
6. Proceed to Central Stores to ask staff for keys for SW111K and SW111A.
7. Put the RG2 waste and gloves into a grey tote inside SW111A.
8. When there is only 1 empty tote remaining (i.e. 3 out of 4 totes are full), notify Central Stores staff to arrange for waste pick-up.
9. Disinfect all contacted surfaces and keys with the Virox Accel wipes found inside the room.
10. Wash hands at the sink outside SW111K after leaving the facility.



C. Disposal of Sharps – Needle and Blade Waste

“True” sharps such as scalpel blades, lancets, and syringes, pose a risk of cutting the skin and must be discarded in yellow or red puncture-resistant sharps containers. These containers are disposed of in the Biowaste Storage Room located in SW111A using the procedures outlined in Section B above. Ensure the lid is tightly secured for safe transport from the lab to the waste facility.

D. Disposal of Mixed Waste

- Biohazardous (RG2) materials contaminated with a significant amount of chemical(s) must be chemically disinfected and disposed of as chemical waste with the appropriate chemical waste label. In some cases, the chemical waste may have to be deactivated following instructions in the (Material) Safety Data Sheet.
- Biohazardous (RG2) materials contaminated with radioactive materials must be chemically disinfected and disposed of as radioactive waste with the appropriate waste label.
- Whether chemical disinfectants (RG1 / RG2) or autoclave methods (RG1 only) are used to sterilize waste, the Principal Investigator must assure the U of T Institutional Biosafety Committee that the routines and methods achieve the desired objective.
- Waste containing or contaminated by radioactive materials must be treated as radioactive waste after biological disinfection then chemical deactivation (when a significant amount of chemical contamination is present).

For general information on handling laboratory hazardous waste, refer to the Laboratory Hazardous Waste Management and Disposal Manual (<https://ehs.utoronto.ca/laboratory-hazardous-waste-management-and-disposal-manual/>), or contact the persons below:

Primary Contact	Secondary Contact	Biosafety Officer	EHS Office	Campus Police
Rob Provost	Shelley Brunt	Ayoob Ghalami	Patrick Lam	Emergencies & Off-hours contact
UofT Environmental Protection Manager	UTSC Local Biosafety Coordinator	UofT Senior Biosafety Officer	UTSC Health & Safety Officer	
416-978-7000	416-208-2794	416-978-3981	416-208-8187	416-978-2222