

SCHOOL OF HEALTH**Standard Operating Procedure****Handling of Biohazardous Materials at
PERFORM PC-SOP-GA-002-v04**Revision History

Version	Reason for Revision	Date
04	<ul style="list-style-type: none">• Minor changes in sections• Update reference to SOH	06-Aug-2025

Summary

The content of this Standard Operating Procedure (SOP) provides guidelines for acquisition, use, and disposal of biohazardous materials in a safe and environmentally sound manner in the PERFORM Centre building, which is managed by the School of Health at Concordia University. Biological material may be sampled (i.e. blood draw, biopsies) in different areas of the building; however, any manipulation must be done in the Clinical Analysis Suite.

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I. Definition of Terms and Abbreviations

Biohazards	Biohazards are infectious agents or hazardous biological materials that present a risk or potential risk to the health of humans, animals or the environment. The risk can be direct through infection or indirect through damage to the environment.
Biohazardous materials	<p>Biohazardous materials includes (but are not limited to):</p> <ul style="list-style-type: none"> - Microorganisms such as viruses, fungi, parasites, bacteria and their toxic metabolites - Mammalian primary tissues, blood and body fluids; - Materials that may contain the above-mentioned agents (e.g. cultured cells, specimens from humans and animals, environmental samples); - Certain proteins, nucleic acids (siRNA, miRNA, DNA from pathogenic organisms, oncogenes).
BSO	Biosafety Officer
EHS	Concordia University Environmental Health & Safety
Users	Person who is using space or equipment in the PC building that has received adequate technical and safety training.
Principal Investigator (PI)	Principle Investigator (PI; faculty) responsible for all aspects of a given project being carried out within the PC building
Technical Staff	Clinical Analysis Technician or delegate who is responsible for maintenance of the space and training users in spaces with biohazards.
Personal Protective Equipment (PPE)	Lab coats, gloves, safety goggles, face shields, long pants, closed toe shoes, etc.
SDS	Safety Datasheet
PSDS	Pathogen Safety Datasheet
WHMIS	The workplace hazardous materials information system (WHMIS) is a component of the hazard communication scheme in laboratory. WHMIS regulations set out requirements for workers training, hazardous materials labeling, and provision of Material Safety Data Sheets (MSDSs).

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2. Introduction

2.1 Background

All users of biohazardous materials are required to follow specific rules and regulations regarding safe acquisition, handling, storage, and disposal. All users of spaces in the PERFORM Centre who will work with biohazardous materials are required to have taken the following courses provided by Concordia EHS in accordance with the permit for their PI, and need to have an orientation of the space by relevant technical staff:

- WHMIS for Laboratory Personnel
- Hazardous Waste Disposal for Laboratory Personnel
- Safe Storage of Hazardous Materials
- Biosafety
- Hazardous Materials Minor Spill Response Training
- Safe Handling of Blood (Optional)
- Safe Use of Biological Safety Cabinet (Optional)

When required, users should refer to the Laboratory Safety Manual ([Laboratory Safety Manual](#)) and be aware of Concordia's EHS Policies.

2.2 Purpose

This SOP defines the safe practices of acquiring, using and disposing of biohazard materials in the PERFORM Centre.

2.3 Scope

This SOP pertains to the safe acquisition, use and disposal of biohazardous materials in the PERFORM Centre to prevent users from exposure to infectious materials.

2.4 Responsibility

It is the responsibility of the users to follow the SOP guidelines and use biohazardous materials in a safe and responsible manner. It is the responsibility of PI to have their own Biohazard Permit for the handling of identified biohazardous material, and ensure that their research team (staff, students, collaborators, etc.) obtains the necessary training, and reads the required compliance documents for the School of Health (SoH).

It is the responsibility of the technical staff to ensure that all users of the facility have been provided with and have completed the proper training to be able to work in a safe manner to minimize risk. It is also the responsibility of the technical staff to liaise with EHS and ensure compliance with Concordia University requirements. Adjustments to procedures will be made as recommended by EHS to ensure adherence to current safety standards.

SCHOOL OF HEALTH**2.5 Relevant Documents**

This SOP is governed by the following Concordia University policies and SOPs:

- VPSS 40 “Environmental Health and Safety”
- VPSS 41 “Policy on Personal Protective Equipment”
- VPSS 42 “Policy on Injury Reporting and Investigation”
- VPSS 52 “Biosafety Policy”
- PC-SOP-GA-001 “Guidelines for preparing Standard Operating Procedures and PERFORM Operating Documents.”
- PC-SOP-CA-001 “Clinical Analysis Suite-Access, Use and Safety Rules”
- EHS-DOC-001 “Laboratory Safety Manual”
- Pathogen Safety Datasheets available online at:
<http://www.phac-aspc.gc.ca/lab-bio/res/psds-ftss/index-eng.php>

Please refer to these policies and manuals, or contact EHS for further clarifications (ehs@concordia.ca).

3. Procedure**3.1 Acquisition of biological materials**

3.1.1 The purchase or acquisition of biological materials must comply with the Procurement policy and the [Procurement of Regulated Goods: Biohazardous Materials](#) guidelines, the Biohazard Permit assigned to individual PIs by EHS, and via approval by EHS and using material transfer agreements (MTAs) if relevant. Biological material being stored or used at the PERFORM Centre must be entered in the biological sample / material log form (Appendix I). Biological materials must be properly stored in easily identified boxes in an assigned rack, shelf and freezer or tank. The type of sample and origin should be indicated by the user in Appendix I when relevant.

3.1.2 The transport of biological material to PERFORM and within the campus must comply with [current procedures](#) available on EHS website.¹

3.2 Use of biohazardous materials in the laboratory

3.2.1 When handling biohazardous material, the appropriate PPE (e.g., gloves, lab coats, safety glasses or face shields) must be worn and clothing must be worn as described in the Biosafety Manual, PC- SOP-CA-001 and VPSS-41.

¹ <https://www.concordia.ca/campus-life/safety/general-safety/transportation-of-dangerous-goods-tdg.html>

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- 3.2.2 Biohazardous material ranked as Risk Group 2 (RG2) must be handled in a biological safety cabinet. Surfaces should be cleaned before and after use using diluted soap on stainless steel surfaces, then rinse with 70% ethanol. The UV light should also be turned on after use. Avoid creating aerosols on an open bench by using tubes with caps.
- 3.2.3 Wash hands following all laboratory activities after removing gloves. Decontaminate all work surfaces before and after any experiment as in 3.2.2. Do not perform mouth pipetting under any circumstances. It is the responsibility of the user to handle biohazardous materials in a safe manner to protect themselves and those around them.
- 3.2.4 Human blood, body fluids and tissues may be containing bloodborne pathogens including hepatitis B virus. The risk of hepatitis B can be significantly reduced by immunization. Any user who is willing to work with those materials must register with Concordia's Occupational Health Program. Every individual would have to initiate this process by filling EHS' [online form](#).²
- 3.2.5 Moving biohazardous material between rooms and/or buildings requires safe handling to reduce the risk of spills or leaks via secondary containment. Users should use a container that holds the volume of the material properly and can be closed. Users should use the freight elevator at the back of the PC building for the transport of biohazardous materials and not the passenger elevator by the reception area.
- 3.2.6 Cultured cells must be handled in sterile biosafety cabinets with a 2L side arm flask attached to a vacuum line used to aspirate media. The vacuum setup includes: 1) a primary collection flask with 10% bleach, 2) a secondary overflow flask, and 3) a cartridge-type in-line filter to protect the vacuum pump/central vacuum system from contamination. It is recommended to use a Whatman™ HEPA-Vent Filter, which is a laminated hydrophobically treated glass microfiber capable of retaining 99.97% of 0.3µm particles. Please refer to the [Safe Use of Mixing Apparatus](#) document from EHS posted beside the Biological Safety Cabinets in the Clinical Analysis Suite.³
- 3.2.7 The sterile biosafety cabinets must be annually inspected and meet the criteria for use. The technical staff will coordinate with EHS for inspection.
- 3.2.8 Each user must wash their hands after handling biohazardous materials and

²

https://forms.cloud.microsoft/Pages/ResponsePage.aspx?id=hfFpVS_SE06YUM5bGrzS6CCFkQGrI0VFkZsUcMg9JE9UNDYISIkYSVJBUUhYUJVVNUINNFIISREJITiQIQCN0PWcu

³ https://www.concordia.ca/content/dam/concordia/services/safety/docs/EHS-DOC-100_SafeUseofMixingApparatus.pdf

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before leaving the lab.

3.2.9 PPE must not be worn outside the laboratory.

3.3 Disposal of biohazardous waste**3.3.1 Cell culture waste**

3.3.1.1 Cells and tissues should be destroyed with 10% v/v bleach after use or when discarding. If using a flask or other type of vessel, let the mixture sit capped for at least 30 minutes. When the liquid is clear, the waste can be slowly poured down the sink while simultaneously running cold water to avoid fumes. Run the fresh cold tap water for another few minutes to ensure that there is no lingering odor.

3.3.1.2 All reusable dishes should be washed afterwards manually or by glassware washer using Sparkleen soap, followed by rinses, and then autoclaved before next use.

3.3.2 Biohazardous solid waste

3.3.2.1 Contaminated solid waste from the biosafety cabinets, such as disposable gloves, centrifuge tubes, flasks, serological pipettes, pipette tips, etc., should be placed in the yellow bag within the large grey bins dedicated for biohazardous waste. Ensure that the lid is closed after use.

3.3.2.2 Contaminated sharps such as needles, syringes, glass Pasteur pipettes and scalpels should be placed in the small red biohazard waste containers only. These containers are not to be used for heavily contaminated chemical waste.

3.3.2.3 Other waste contaminated from the bench with biohazardous material should be disposed of using the small yellow containers.

3.3.2.4 When a solid waste container is full, the user must advise the technical staff (Clinical Analysis Technician or delegate) who will arrange for EHS to pick up the full container and bring a replacement container. The technical staff will remove full containers as described in APPENDIX II.

SCHOOL OF HEALTH**3.4 General procedure for dealing with spills**

- 3.4.1 All users handling biohazardous material must have taken the courses from EHS as outlined above. All minor spills or minor incidents, that could involve exposure to infectious materials must be reported immediately to the PI, technical staff and EHS. EHS will follow up on any incidents to ensure that procedures are being followed properly. For major spills or more serious incidents that can cause a danger to health, treat this as an emergency. Do not clean the spill, exit the area immediately and call CSPS at 3717.
- 3.4.2 To clean a spill containing a minor amount of biohazardous material, the user should use the spill kit, which consists of the following: absorbent pads, socks, pillows, bags, nitrile gloves, goggles, and an emergency sheet. The spill kit should be easily accessible in Clinical Analysis Suite and be maintained by the technical staff.
- 3.4.3 When volumes are less than 1 mL and are not considered to be dangerous: clean using a disposable wipe (Kim wipes) moistened with 10% v/v bleach solution and dispose soiled wipes in the biohazard bag in the grey bin. *Please make note the chemicals in buffers or solutions containing the biohazardous material and do not use bleach if there is risk of chemical reaction.* Notify the technical staff.
- 3.4.4 When the volumes are larger than 1 mL and are not considered to be dangerous: use the absorbent pads and/or sock from the spill kit and soak the contaminated area with a 10% v/v bleach solution; allow 20 minutes for disinfection, clean with wipes and dispose them in the biohazard bag in the grey bin. *Please make note the chemicals in buffers or solutions containing the biohazardous material and do not use bleach if there is risk of chemical reaction.* Notify the technical staff.
- 3.4.5 For spills that involve near injury or near miss injury, the technical staff will inform the PI, then they will help the user to complete an incident report on the EHS website (Appendix III).

APPENDIX I

Biological Sample/Material Log Form

Storage
temp: **Freezer Id:** **Shelf No:** **Rack No:** **Box No:**

[illegible]

APPENDIX II

Procedure for Biohazardous Waste Disposal

SCHOOL OF HEALTH**Procedure for Biohazardous Waste Disposal - with Stericycle****Grey bins preparation prior to bringing to the loading dock at PERFORM Centre (grey bins with yellow lid)**

1. Make sure that the internal yellow bag is sealed properly.
2. Make sure that the grey bin(s) is clean (wipe it with soap or disinfectant if required).
3. Secure (tape) the lid onto the grey bin(s).

There is a regular biohazardous waste pick-up schedule sent by EHS to the facilities coordinator, and technical staff of the Clinical Analysis Suite of the PERFORM Centre. They have access to the loading dock and will ensure to add the yellow sticker provided by Stericycle on the gray bins. Once Stericycle comes for the pick-up, School of Health staff will send the green copy by internal mail to the relevant staff from EHS, who keeps a copy and tracks the quantity of biohazardous waste shipped.

Yellow containers for biohazardous waste (tabletop)

1. Make sure that the container is not overfilled.
2. Close the container.
3. Place the yellow container inside the large grey bin.

Puncture-proof containers for sharp biohazardous waste

1. Make sure that the container.
2. Carefully close the lid and verify it's been secured.
3. Place the sharps container inside the large grey bin.

APPENDIX III

Injury/near-miss reporting

Can be completed and submitted online at:

<https://www.concordia.ca/campus-life/safety/injury.html>



Employee QR code



Student QR code