

Biosecurity Plan

Memorial University of Newfoundland Biosafety Program

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CBS 4.1.7 A biosecurity risk assessment to be conducted and documented.

CBS 4.1.11 A biosecurity plan, based on a biosecurity risk assessment, to be developed, implemented, evaluated and improved as necessary, and kept up to date. The biosecurity plan to include mitigation strategies for the risks associated with:

Biosecurity

Security measures designed to prevent the loss, theft, misuse, diversion, or intentional release of pathogens, toxins, and other related assets (e.g., personnel, equipment, non-infectious material, and animals).

Biosecurity risk assessment

A risk assessment in which the pathogens, toxins, infectious material, and other related assets (e.g., equipment, animals, information) in possession are identified and prioritized, the threats and risks associated with these materials are defined, and appropriate mitigation strategies are determined to protect these materials against potential theft, misuse, diversion, or intentional release.

1. Introduction

Memorial University of Newfoundland's (MUN) Biosecurity Plan (BP) is designed to prevent the loss, theft, misuse, diversion, or intentional release of pathogens, toxins, and other related assets (e.g., personnel, equipment, non-infectious material, animals and information).

2. Scope

This BP applies to all containment level (CL) 1 and 2 locations of MUN and encompasses the following situations for MUN laboratories:

- unauthorized personnel in restricted areas [i.e. biohazard containment zones (CZ)].
- unauthorized removal or release of pathogens and toxins (theft/intentional release) from a CZ.
- unauthorized use and/or handling of pathogens and toxins,
- breaches of containment.
- misuse (i.e. theft) of intellectual property (IP) related to work with biohazardous materials.

The BP outlines facility requirements, work procedures, and plans to be implemented should any of these events take place.

3. Responsibilities

This section outlines responsibilities within the university for the implementation of this BP.

a. Environmental Health and Safety (EHS)

- Review and amend this BP as necessary.
- Provide guidance to all levels of management, employees and students on the development, maintenance, review and evaluation of this BP.

b. Biological Safety Officer (BSO)

- The BSO is designated the Responsible Officer (RO) with respect to biosecurity and is responsible for the development, training and implementation of safety, security and emergency response plans relating to biohazardous materials at MUN.
- Work with individual labs to ensure that all aspects of this BP are implemented.
- Liaise with the appropriate authorities in the event of a biosecurity breach.

c. Department Heads

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- Ensure this BP is communicated to members of the university community, as required and that compliance is maintained.
- d. Laboratory Supervisors/Principal Investigators (PI)
- Communicate the requirements of this BP to all laboratory personnel.
 - Ensure this BP is implemented and followed within areas of their control.
 - Ensure that staff and students are trained on the details of this BP prior to the commencement of work within the laboratory.
- e. Biohazard laboratory personnel
- Ensure that you review this BP prior to the commencement of work within the laboratory.
 - Follow all requirements as outlined in the BP.
- f. Campus Enforcement and Patrol (CEP)
- Respond to all incidents (including biosecurity related) on campus.

4. Biosecurity Risk Assessments

The Institutional Biosafety Committee (IBC) approves all activities involving biohazardous materials at MUN by reviewing applications and issuing biosafety certificates (BC) to approved PI. When reviewing BC applications, biosecurity issues such as dual-use potential, potential/consequence of release, and overall level of threat are used by the IBC to assess the biosecurity risk associated with the materials and work to be performed.

If a biosecurity risk is identified during this process, conditions of approval can be added to the BC in order to mitigate the risk. The BSO determines the appropriate condition(s) by conferring with individual(s) they feel are appropriate, including but not limited to the Director of Environmental Health & Safety, Chief Risk Officer and Director of Protective Services.

a. Facility Security

The Physical security of a facility or laboratory is intended to prevent the entry of unauthorized personnel and the theft of pathogens. In order to prevent unauthorized access to MUN facilities and laboratory's, the following minimum physical security standards must be in place:

- Biohazard signage shall be posted at the entrance to all authorized biohazard laboratories.
- Laboratory doors shall be locked when the area is unoccupied (e.g. lunch break, after hours, etc.). Acceptable locking mechanisms include:

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- Non-reproducible mechanical key/lock.
- Programmable keypad/lock.
- Electronic card/fob access.
- Laboratory access shall be restricted to authorized personnel and authorized (escorted) visitors (e.g. untrained students, maintenance personnel, vendors, etc.).
- Biohazardous materials shall not be left unattended and unsecured.
- Biohazardous materials shall be secured from unauthorized access when not in use (i.e. in storage) or in unsecured areas (e.g. refrigerators in shared spaces).
- For shared laboratories, access to the CZ by personnel should be gained one at a time (no “piggybacking”).
- Personnel should carry photo identification (e.g. MUN ID).
- Identification of unauthorized access shall be reported immediately to the direct supervisor (e.g. biosafety certificate holder). The supervisor will submit an incident report (MIMS or MUNSafE) and inform the BSO and CEP directly.

b. Biohazard Accountability and Inventory Control

A current (up to date) inventory of all biohazardous materials on hand and in long-term storage (more than 30 days) must be maintained by biosafety certificate holders. Depending on the risk associated with the pathogen or toxin [i.e. risk group (RG)], varying levels of information are necessary for the inventory (see section 5.1.3 of MUN’s [Biological Safety Manual](#)). Inventories must be made available to the BSO upon request. PIs are responsible for all items in their biohazard inventory at all times. Access to pathogens and/or toxins must be restricted to authorized laboratory personnel and a tracking system must be established in order to ensure accounting for materials and waste. Personnel who have access to pathogens/toxins must be documented ([Biohazard worker registration form](#)) and kept on file within the lab. In addition, the following is required of biohazard inventories:

- Inventories should be audited by the biosafety certificate holder (or designate) at least bi-annually (i.e. prior to biosafety certificate renewal submission) in order to identify missing items (BSO notified of inventory discrepancies).
- All samples, stocks, specimens, etc. must be adequately labelled.
- All storage locations (e.g. refrigerators, freezers, dewers, waste areas, etc.) must be labelled with the PI name, contact number and biohazard warning symbol.
- Inform the BSO before ordering, transferring, or receiving biohazardous materials, and if items in transit are delayed or unaccounted for.
- Inform the BSO in the event of any lost, stolen or inadvertently disposed biohazardous materials.

c. Emergency Protocols for Security Incidents

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MUN's "[Biohazard Laboratory Emergency Response Plan \(ERP\)](#)" shall be completed and maintained within **each** laboratory listed on a biosafety certificate. The ERP also describes the reporting requirements for biosafety-related incidents. The PI shall use this ERP as the basis for their annual emergency response refresher training.

In cases where there have been unauthorized personnel entering the containment zone (including unauthorized MUN personnel and external contractors/vendors) or pathogen/toxin samples have been stolen, misused or intentionally released, the immediate supervisor (biosafety certificate holder) must be notified **first**. It is the responsibility of the biosafety certificate holder to report the incident via Memorial's Incident Management System ([MIMS](#)) or via the MUNSafe app as well as to the BSO directly. Depending on the nature of the incident, the BSO may coordinate efforts with the CEP, RNC or representatives for PHAC/CFIA.

d. Personnel Suitability and Reliability

All laboratory personnel (faculty, staff and students) must be **authorized** prior to accessing an authorized CZ. Prior to authorization, personnel (e.g. trainees, visitors) must be **escorted** at all times while in the CZ. To obtain authorization for unescorted access, an individual must:

- Complete BSO-prescribed [biosafety training](#) and PI-administered laboratory-specific biosafety training.
- Complete and submit a biohazard worker registration form to the BSO.

Ancillary workers (e.g. custodians, facilities management, etc.) must complete "[Laboratory Safety Awareness for Non-Lab Workers](#)" training prior to entering any authorized biohazard laboratory.

e. Information Management and Security

Information security is directed at protecting information, keeping sensitive information confidential, maintaining the integrity of all information, and making it accessible only to those who need it. Biosafety information assets at MUN include the following and should be considered confidential:

- Inventories and storage locations.
- Risk assessments/Biosafety Certificates.
- Experimental protocols/results.
- Proprietary scientific information (e.g., processes, techniques, gene sequences).
- Building plans.

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Biosafety Certificate holders should consult with MUN's [Information Technology Services \(ITS\)](#) department in order to ensure the security of applicable information. The following general guidelines should be followed:

- Insure that computers used to store biosafety-related information are password-protected and locked when not in use.
- If sensitive files are to be sent via email, use encryption.
- Laboratory information stored on shared network drive is saved in access controlled folders only accessible by laboratory personnel.
- Treat mobile devices and phones with the same security precautions as a desktop or laptop computer.
- Use of USB flash drives for the storage of biosafety-related information should be limited.
- Hard copies of relevant information should be properly and securely stored (e.g. locked file cabinet) when not in use.
- Back up data to a secure external drive or remote server to avoid potential losses.

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Version History:

Version	Date	Author(s)	Notes
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