# BI Biohazardous Work Policy

1. Within the BI, biohazardous work is defined as users working with or importing infectious biological materials or toxins. This includes storing and transporting biohazardous material into and out of the BI facility.
2. Any biohazardous work occurring at the BI must adhere to McMaster University’s biosafety guidelines and applicable RMMs and be approved by the McMaster Biosafety Office and the McMaster Presidential Biosafety Advisory Committee (PHAC). Refer to RMM #600: Biosafety Program.
3. BI users and supervisors working with biohazardous materials must be captured and approved on a McMaster Biological Utilization Protocol (BUP).
4. All biohazardous work in BI laboratories must be approved by the BI Biological Research Technician and BI Director. Consultation with the Biosafety Office may be required. Permission to work in BI laboratories is at the discretion of BI staff.

## BI Biological Work & BUP

1. The BI facility BUP is approved for CL-1 work in ETB 417, 418, 419, 420A, 421, 423, 424 and 435, and CL-2 work in ETB 420 and 425.
2. Work with animal products may be allowed, following approval from the biosafety office, applicable ethics committees, and perhaps the central animal facility. See the BI Biological Technician for more information.
3. Work with laboratory animals is prohibited within BI facilities.
4. Work with anything higher than CL-2 is not authorized without approval from PBAC, the BI Biological Research Technician and BI Director.
5. BUPs and affiliated laboratory locations and inventory are subject to routine audits by the McMaster Biosafety Office. Refer to the BI Inspection Policy.
6. A copy of the BI BUP, inventory, transfer agreements, and audit inspections will be stored in the BI office areas and with BI staff. Refer to the BI Documentation Policy.

## User Biological Work & BUP

1. Prior to performing biological work in the BI, the user’s supervisor must have an approved BUP that includes the user(s), relevant inventory and biohazardous work and techniques. The BUP must be amended to include relevant BI labs and equipment and is subject to review by the BI Biological Research Technician, as needed, to ensure information is accurate.
2. Biohazardous work must be in accordance with BI policies and facilities. Biological inventory must be susceptible to decontaminated with 70% ethanol and bleach. If other decontamination chemicals are required, they must be provided and stored within relevant BI laboratories by the user, user’s supervisor, or BUP Principle Investigator.

## Training

1. BI Users must have the required McMaster safety training modules for working with biohazardous materials; refer to the BI Training Policy.
2. Prior to working independently in CL-2 labs, users must receive on-site training with respect to lab specific guidelines and equipment from qualified BI staff. Refer to the specific BI Biohazardous Work Policy – ETB 420 or ETB 425.

## Laboratory Entry

1. Ensure personal belongings are stored outside the lab area. Any items brought into the lab space should be kept to a minimum and handling of such items should be in a manor to avoid cross-contamination with hazardous and biohazardous items (see below).
2. Ensure you have the appropriate lab-area attire (e.g. pants, closed-toed/heeled shoes) before entering and starting work. Refer to the BI PPE Policy.
3. Prior to entering a lab, read the door signage for any location-specific entry protocols, potential hazards and emergency equipment.
4. Don a lab coat and appropriate PPE. PPE is required when handling hazardous and biohazardous materials, or when there is a risk of exposure to such materials (i.e. sitting or standing close by hazardous activities). Refer to the BI PPE Policy.

## Laboratory Exit

1. When work is complete and relevant items/equipment decontaminated, remove gloves. Discard into the appropriate waste stream.
2. Don new gloves to remove eye/face and respiratory protection, as needed. Ensure items are cleaned prior to returning to storage location and discard gloves appropriately.
3. Verify cold unit doors are closed, unnecessary equipment is turned off.
4. Wash hands with soap before leaving.
5. Return lab coat to designated storage location.
6. Exit the lab/facility ensuring doors close and are secured behind you.

## Biosecurity

1. Biohazardous workers must comply with the Biosafety Office and the BI Biosecurity Policy to ensure biohazardous materials are not lost, stolen, misused, or released from BI laboratories.

## Inventories

1. BI Users must comply with biohazard inventories requirements from the Biosafety Office and disclose biohazard inventory measures to the BI Biological Research Technician (refer to the BI Substance Policy).
2. Inventories are subject to internal audits by BI staff and the Biosafety Office.

## Transfer Agreements

1. If receiving of shipping biohazardous agents outside McMaster, ensure any transfer related communications (e.g. communication with Biosafety Officer and Customs office), affirmations (e.g. “appropriate laboratory facilities and trained personnel to handle the item safely” exist), import documents, transfer documents, waybills, invoices and other related paperwork is kept on file. Ensure each document is dated appropriately and stored.
2. Update relevant BUPs to include the newly acquired item.
3. BI related transfer documentation will be kept in the BI Office area; refer to the BI Documentation Policy.

## Cross-contamination

1. Users must be cautious of cross-contamination, specifically with reference to portable and personal electronic equipment.
2. The BI does not recommend the use of personal electronic equipment in laboratory wet-work areas.
3. The use of portable electronic devices for research purposes in BI laboratories is at the discretion of the BI user and their supervisor.
4. Electronic equipment attached to research equipment should be done so in such a manner to minimize the risk of biological contamination, damage or accident to equipment or personnel. Items should be covered with impermeable material which prevents leakage of liquids into the chassis or inner components.
5. Electronic equipment surfaces are to be cleanable with suitable disinfectants or decontamination agents (e.g. ethanol, bleach, isopropanol).
6. Users must report spills and biological contamination of portable electronic equipment to their supervisor and BI staff. Contaminated items are to be reported to the Biosafety Office and stored in a biological safety cabinet or gasket-fitted leakproof container until disassembled and decontaminated. Decontamination of personal electronic equipment should comply with manufacturer recommendations for equipment cleaning.

## Transportation and Movement of Biohazards

1. Users should use the appropriate engineered system(s) when handling or transporting substances, to avoid exposure.
2. BI users must comply with Transportation of Dangerous (TDG) guidelines when transporting biohazardous materials and should have the appropriate McMaster training.
3. TDG double-containment guidelines state that during transport, a biological agent should be contained in a labeled and sealed (leak-proof and secured with parafilm) primary container that is surface decontaminated and placed inside a biohazard-labeled, sealed, and shatter-proof secondary container, with enough absorbance material to contain the primary containers contents. The outside for the secondary container must be surface decontaminated as well.

## CL-2 materials

1. CL-2 materials require containment standards as per the Canadian Biosafety Standards (CBS) and must be handled in a biological safety cabinet (BSC).

## Risk Assessments

1. Risk assessments are required when there is a new hazard in the laboratory, when there is a change to an existing hazard, when a new procedure or piece of equipment is employed, when an incident or injury has occurred with existing hazards, procedures or equipment or when it is deemed necessary by supervisors.
2. Risk assessments should be reviewed and approved by supervisors. Amendments must be communicated to workers.
3. BI specific risk assessments will be kept within the BI office area. If applicable, risk assessments will be made available to BI users electronically via the BI website. Refer to the BI Documentation Policy.
4. Refer to the BI Risk Assessment Policy.

### BI User Biohazardous Work, Risk Assessments and SOPs

1. BI user risk assessments and procedural SOPs pertaining to specific biohazardous work are the responsibility of the BI user’s supervisor and not kept on file in the BI.
2. BI SOPs to capture biological work will be maintained by BI staff and users trained as required.

## Biohazardous Work – Medical Surveillance

1. As per, RMM #603: Medical Surveillance Program, supervisors must identify potential exposure risks to infectious biohazardous materials, communicate identified risks to workers, ensure inventories are up-to-date, SDS are read by workers, have post-emergency procedures in place following exposure, and ensure workers are executing self-monitoring for symptoms which may be associated with occupational exposure to infectious biohazardous materials.
2. Workers should consider recommendations given by the Canadian Immunization Guide and seek assistance from their own medical service provider as needed.
3. Workers should monitor their health status on an ongoing basis, affirm self-monitoring on an annual basis, follow post exposure procedures and identify intoxication prior to serious injury or disease.