BIOSAFETY INSPECTION (CL2 Lab) - Compliance to Canadian Biosafety Standards and Guidelines, 3rd editon, 2022 & best biosafety practices.

Biosafety Permit #	
Department	
Principal Investigator	
Laboratory Representative	
Location	
Inspection date	
Inspected by	

Requirement	Description	Compliant	Corrective Action/Recommendation	PI Response
	3.1 Containment Barrier			
3.1.1	Openable windows are positioned on the containment barrier to provide effective pest control.			
3.1.4	Windows provide protection against breakage and security threats			
	3.2 Access			
3.2.1	Biohazard warning signage is posted at the containment entry point and in areas where unique hazards exist.			
3.2.3	For storage (outside the lab), Biohazard warning signage is posted at entry point or on storage equipment			
3.2.4	Lab has a lockable door.			
3.2.9	Space is provided inside the lab for dedicated, diposable and/or reusable PPE			
	3.3 Surface Finishes and Casework			
3.3.1	Surfaces and coatings, including floors, ceilings, walls, doors, frames, casework, benchtops, and furniture, are: 1. cleanable; 2. non-absorbent; 3. resistant to physical damage; and 4. resistant to damage caused by decontamination procedures and products.			
3.3.2	Surfaces in contact with regulated materials are continuous with adjacent and overlapping materials.			
	3.5 Facility and Services			
3.5.4	Dedicated handwashing sink is available with handwashing signage			
	3.6 Essential Biosafety Equipment			
3.6.1	BSCs or other primary containment devices (such as process equipment, fermenters, bioreactors, closed systems, and centrifuges with sealed safety cups or rotors) are available			
B.P	Biological Safety cabinet (s) are annually certified (i.e. it has not passed its expiration date)			
3.6.5	Centralized or individual autoclave facility are provided within the containment zone, and/or procedures are in place to safely and securely move or transport waste for on-site/off-site waste disposal.			
3.6.7	Autoclaves are equipped with monitoring devices and recording mechanisms that capture operating parameters such as date, cycle number, time, temperature and pressure.			
3.6.8	Mechanisms (such as HEPA or high efficiency filters, small in-line filters [e.g., 0.2 µm filter]), and disinfectant traps are provided to prevent contamination of vacuum systems and the release of regulated materials.			
B.P.	Vacuum flasks are kept in secondary trays/containers to prevent tip off and release of regulated materials			
	4.1 Biosafety Program Management			
4.1.1	Active UoG Biosafety permit (listing all Rm #s used to handle and store regulated material) is displayed in the lab			
4.1.7 & 4.1.10	Updated Lab specific Biosafety manual listing all relevant SOPs for operational lab practices is available; communicated and made available to authorized personnel.			
	4.2 Training Program			
4.2.1	A training needs assessment is conducted, reviewed and documented annually; submitted to BSO along with permit application/renewals as applicable.			

4.2.2	All authorized personnel have completed online Biosafety trainings and required lab specific training and training records are documented.			
4.2.3	Visitors are trained and/or accompanied by authorized personnel			
4.2.4	Lab Personnel demonstrates knowledge of the relevant elements of the biosafety manual and proficiency in the procedures on which they were trained before engaging in unsupervised activities.			
	4.3 Personal Protective Equipment			
4.3.1	Dedicated, activity-specific PPE is selected and used as listed in biosafety permit application			
4.3.2	Gloves are worn when handling regulated materials			
	4.4 Entry and Exit			
4.4.1	Doors are kept closed at all times to maintain the integrity of the containment barrier and/or prevent the release of infectious aerosols in the event of an incident			
4.4.2	Only authorized individuals are granted access to the containment zone			
4.4.8	Personal clothing and belongings are stored separately from dedicated PPE that has been worn in the containment zone.			
4.4.9	Personal belongings and items (e.g., backpack, notebook, purse, cell phone) are kept separate from areas where regulated materials are handled or stored			
4.4.11	Open wounds, cuts, and scratches are covered in a manner (i.e. stocks of Water proof Band Aids are available) that prevents exposure			
4.4.12	Jewellery (that may become contaminated or compromise PPE) are removed or covered prior to entering the containment zone.			
4.4.13	Dedicated PPE are donned while handling biohazards in accordance with entry procedures listed on the biosafety signage.			
4.4.16	Activity-specific PPE (e.g.gloves, eye protection as listed lab safety manual) or an additional layer of PPE (e.g. gown) are donned prior to beginning the activity in the containment zone.			
4.4.18	Dedicated and activity-specific PPE are doffed in a manner that minimizes contamination of the skin, hair, and personal clothing (where worn), and stored or disposed of within the containment zone or containment barrier.			
4.4.19	Personnel wash their hands when exiting the lab			
	4.5 Work Practices			
4.5.1	Procedures (listed in the biosafety manual) are followed to prevent personnel exposure to regulated materials and the spread of contamination during tasks.			
4.5.2	Traffic and work flow patterns are established and followed to prevent the spread of contamination			
4.5.3	Containment zone are kept clean and the presence of the following are minimized: a. obstructions; b. materials that are in excess or not required; and C. items that cannot be easily decontaminated			
4.5.4	Contact of the face or mucous membranes (such as mouth pipetting, chewing the end of a pencil, eating, drinking, applying cosmetics, inserting ear buds, inserting or removing contact lenses), with contaminated or potentially contaminated regulated materials are prevented			
4.5.5	Hair are restrained or covered when working in the containment zone .			
4.5.6	Use of sharp and glass objects are strictly limited and avoided when suitable alternatives (e.g., plastic scissors, plasticware) can be used			
4.5.7	Bending, shearing, re-capping, or removing needles from syringes are avoided, and if necessary, one hand technique is used. Alternatively, safe sharps are used.			
4.5.8	Verification of small in-line filter of Vaccuum assemblies is performed on the usage frequency			

4.5.9	Verification of primary containment devices (including BSC, open flames, mixers, vacuum pumps, and microcentrifuges) are performed prior use. For BSC, following Biosafety reminder checklist. For centrifuges, checking integrity of sealing rings on centrifuge sealed safety cups and rotors. O-rings and gaskets - appearing dried may be greased and those that are cracked or damaged replaced.			
4.5.12	PPE (e.g. for gloves following glove removal protocol) is doffered in a manner that minimizes contamination of the skin, hair, and personal clothing after completing work activities and when PPE may have become contaminated.			
4.5.13	Primary containers of regulated materials are opened only at the containment level as assigned by the PHAC (ePAthogen database and the CFIA.			
4.5.14	Primary containers of regulated materials (removed from the containment) are stored in a labelled, leak-proof, impact-resistant secondary container, and kept either in locked storage equipment (freezer) or in a locked room			
4.5.19	Labelled, leak-proof, impact-resistant secondary container are available and used during movement of regulated materials			
4.5.20	A BSC or other primary containment device are used for activities with open vessels, based on the biosafety permit application.			
4.5.22	BSCs and other containment devices are located and operated in a manner that minimizes airflow disruption of the devices			
4.5.23	Centrifugation of regulated materials that are primarily infectious or transmitted by inhalation are carried out in sealed safety cups or rotors that are unloaded using a mechanism that prevents their release			
4.7	Decontamination and Waste Management			
4.7.1	Gross contamination e.g. Organic material such as feces, blood), are removed from surfaces and equipment prior to their decontamination (e.g., use of chemical disinfectants)			
4.7.2	Surfaces that may become contaminated are cleaned and decontaminated at the end of the experiment or day			
4.7.3	Disinfectants effective against the regulated materials as listed in Biosafety Permit application are available (such as Sodium Hypocholorite, Accelerated Hydrogen Peroxide) in the required concentration (for e.g. Sodium Hypocholorite i 5% -6%)			
4.7.4	Sharps are discarded in containers that are leak-proof, puncture-resistant, and fitted with lids, or constructed for the purpose of sharps disposal.			
4.7.6	Contaminated liquids (e.g., culture liquids) are decontaminated prior to its release into sanitary sewers.			
4.7.7	Regulated materials: a) waste are placed in closed, labelled, and leak-proof secondary containers that have been surface decontaminated prior to removal from the lab b) Contaminated items are decontaminated prior to testing, repair of equipment (e.g. BSC, centrifuge) ; disposal or removal from the containment zone			
4.7.10	Performance of decontamination technologies are (weekly or with each use based on frequency of use) are verified using Biological Indicators, chemical integrators etc.)			
4.8	Emergency Response			
4.8.1	An Emergency Response plan i.e. accessible Biological Spill Kit with all required contents (as listed in the link below), Biological Spill Plan template, BSC Failure template, unobstructed eye wash (weekly flushed log, intact dust ties which pop up when eyewash is activated) are available			
4.8.4	ERP to describe emergency procedures for incidents within and outside the containment zone that may lead to personnel exposure to regulated materials, or their release from containment.			
4.8.9	Biosafety and biosecurity incidents are filed and/or reported immediately to the BSO.			
B.P	Weekly Eyewash checks are performed and logs maintained			
4.9	Records and Documentation			

4.9.2	Records of biosafety and biosecurity incidents are kept on file for a minimum of 10 years.			
4.9.4	All biosafety and biosecurity training are documented & kept on file.			
4.9.5	BSC-9 Pathogen status inventory form are maintained on an ongoing basis			
4.9.12	Records of validation (annual rep load) and routine verification (weekly BIs) for Autoclave are kept on file.			
	5.1 Performance and Verification Tests			
5.1.2	Inspections of the containment zone (e.g., surfaces, equipment, procedures) are conducted; when deficiencies are identified, implementation of corrective measures are verified.			
5.1.3	Visual inspection of small in-line filter assemblies are conducted and filters are replaced or tested in accordance with manufacturer's specifications.			

List of Biosafety Definitions

Relevant links
ePATHogen database
Biosafety page
All SOPs, Forms & required info are available on Biosafety page; direct individual links are also provided for ease below:
Biosafety Program
Biosafety Manual
SOPs
Biological Spill Response Plan
Emergency Procedure for Exposure
Loss or Failure of Containment
Autoclave Biohazard Waste
Safety videos
Biosafety Cabinet setup including spill clean-up inside a BSC
Proper handwashing
Proper use of an eyewash station
Checklists
Biosafety Cabinet Reminder checklist

FAQ
How to remove gloves safely
How to dispose of Biohazard waste
What are the contents of the Biological Spill Kit?
Forms
BSC-8 Change Request
BSC-9 Pathogen Status Update (in vitro)
BSC-9 Pathogen status (in vivo)
BSC-10 Laboratory Decommissioning Report
Canadian Biosafety Standards