Work Practices for Containment Level 1 Laboratories
Document No. BIO-003-04

1. INTENT

This Standard Operating Procedure (SOP) applies to all faculty, staff and students at Wilfrid Laurier University handling or storing risk group 1 infectious materials in laboratories. The SOP was developed by Safety, Health, Environment & Risk Management (SHERM) to ensure that work with biohazardous materials is conducted in a safe manner reflecting best practices and adhering to the Canadian Biosafety Standard and Handbook published by the Public Health Agency of Canada and in compliance with the Pathogens and Toxins license issued to the university. The information in this document serves as an extension to the information in the Biosafety Manual published by SHERM. Any questions regarding this SOP can be directed towards the Biosafety Officer.

2. DEFINITIONS

Biological Containment Level 1 (CL1) Laboratory

A basic laboratory which handles agents requiring no special design features beyond those suitable for a well-designed and functional laboratory. Biological Safety Cabinets (BSCs) are not required. Work may be done on an open bench top, and containment is achieved through the use of good microbiological practices normally employed in a basic microbiology laboratory.

Biological Containment Level 2 (CL2) Laboratory

A laboratory that handles agents requiring Containment Level 2 practices. The primary exposure hazards associated with organisms requiring the CL2 are through the ingestion, inoculation and mucous membrane route. Level 2 agents are not generally transmitted by airborne routes, but care must be taken to avoid the production of aerosols or splashes.

Risk Group 1 Agents

Any biological agent that is not capable of causing human or animal disease, or is capable of causing human or animal disease but is unlikely to cause disease in healthy workers or animals. Those capable of causing disease are considered pathogens that pose a low risk to the health of individuals or animals, and a low risk to public health or animal population.

3. ROLES AND RESPONSIBILITIES

Supervisors/Principal Investigators

Supervisors and Principal Investigators (PIs) are responsible for ensuring that:

- Full compliance with the SOP exists at all times.
- All individuals working in laboratories have been given adequate supervision. and instruction on the hazards associated with working with biological agents.
- All individuals working in laboratories follow procedures outlined within this SOP.

Staff/Students Working In Labs

Staff and students working in labs are responsible for ensuring that they:

- Are familiar with the hazards and this SOP as it relates to working with infectious materials and toxins.
- Promptly report any known accidents or unsafe conditions to their supervisor.

4. GENERAL GUIDELINES

Working in a Biological Containment Level 1 Laboratory

Biological Containment Level 1 is suitable for work involving agents of no known or of minimal potential hazard to laboratory personnel and the environment. The laboratory is not separated from the general traffic patterns in the building. Work is generally conducted on open bench tops. Special containment equipment is not required or generally used. Laboratory personnel have specific training in the procedures conducted in the laboratory and are supervised by a scientist with general training in microbiology or a related science.

5. PROCEDURES

5.1 Training

- Personnel must receive Biosafety training performed by SHERM, as well as personnel must receive training on the potential hazards associated with the work involved, the necessary precautions to prevent exposure to infectious agents and the release of contained material.
- Personnel must review and sign SOP BIO-007 Training Checklist for CL1 and CL2 Labs, WHIMIS, Lab Safety Training, emergency response training..
- Personnel must show evidence that they understood the training provided and the training must be documented.

- Retraining programs should be implemented if the personnel are located in the laboratory for a prolonged period of time.

5.2 Hygiene

- Hand washing must occur after handling materials, after removing gloves and before leaving the laboratory.
- Eating, drinking, smoking, handling contact lenses and applying cosmetics are not permitted in the laboratory.
- Work spaces must be disinfected using an appropriate disinfectant before and after working with infectious materials.
- Long hair must be tied back or restrained so that it cannot come into contact with hands, specimens, containers or equipment.
- The wearing of contact lenses is acceptable only when there are no other suitable forms of corrective eyewear. When contact lenses are worn, safety goggles are strongly recommended.
- Mouth pipetting is prohibited; only mechanical pipetting devices areused.
- Open wounds, cuts, scratches and grazes should be covered with waterproof dressings.

5.3 Personal Protective Equipment (PPE)

- Appropriate personal protective equipment (PPE) must be worn by all whenever work is performed with infectious agents.
- Standard PPE consists of a dedicated lab coat, proper gloves and eye protection.
- Other PPE may be required depending on the work being performed, i.e. if hazardous chemicals are involved. Consult with the PI and the Safety Data Sheet (SDS) for any materials being used before starting work to determine if additional PPE is required.
- PPE must never be worn outside of the laboratory because of the risk of contamination with residue on gloves, lab coats etc.
- Contaminated clothing must be decontaminated before laundering.
- Footwear must cover the entire foot.

5.4 Sharps

- Needles must not be bent, sheared, broken, recapped, or otherwise manipulated by hand prior to disposal.
- A puncture resistant, leak proof, closable sharps container must be used.
- Non-disposable sharps must be transported in a hard-sided, closed container that has been decontaminated before leaving the laboratory for decontamination of the waste.
- Containers for sharps waste are available from the Biosafety Officer or from the Manager, Animal Care Facilities.
- Refer to the SOP LAB-001; “Sharps Waste Management” for further details on sharps disposal.

5.5 Transport

- Materials to be decontaminated outside of the immediate laboratory are placed in durable leak proof containers and closed for transport from the laboratory.
- Decontaminate the outside of the container prior to leaving the lab so that PPE is not required to transport containers between laboratories. Refer to the SOP BIO-006 "Biological Waste Management" for further details.

5.6 Accidents and Injuries

- After receiving treatment, any accidents/injuries need to be reported to the Laboratory Supervisor and to the Biosafety Officer.
- Written records of such incidents must be maintained and the results of incident investigations should be used for continuing education.

6. APPENDIX

Relevant Standards/Legislation/Policies

Biosafety Manual, Safety, Health, Environment & Risk Management, Wilfrid Laurier University.

Canadian Biosafety Standard and Canadian Biosafety Handbook, Public Health Agency of Canada.

Human Pathogens and Toxins Act and Regulations, Government of Canada.

Laboratory Health and Safety Manual, Safety, Health, Environment & Risk Management, Wilfrid Laurier University.

7. REVISION HISTORY

Revision	*Date*	*Comments*	*Initials*
00	July 14/08	SOP comes into effect	SJL
01	Dec 2013	SOP updated to incl. CBSG, title changed	SJL
02	Mar 2018	Updated per annual review	SJL
03	Mar 2019	Updated per annual review	VB
04	Mar 2021	Updated per annual review	RS