

# Biosafety Level 1

## Laboratory Biosafety Compliance Inspection Checklist

Biosafety Level 1 Section of the *Biological Safety in Microbiological Biomedical and Laboratories, 5<sup>th</sup> edition.*

**Biosafety Level 1** is suitable for work involving well-characterized agents not known to consistently cause disease in immunocompetent adult humans, and present minimal potential hazard to laboratory personnel and the environment. BSL-1 laboratories are not necessarily separated from the general traffic patterns in the building. Work is typically conducted on open bench tops using standard microbiological practices. Special containment equipment or facility design is not required, but may be used as determined by appropriate risk assessment. Laboratory personnel must have specific training in the procedures conducted in the laboratory and must be supervised by a scientist with training in microbiology or a related science.

The following standard practices, safety equipment, and facility requirements apply to BSL-1:

Date	Laboratory Location
IBC Protocol #	Responsible Individual
Person Interviewed:	

Biological safety level: BSL-1  BSL-2

Biological materials manipulated in the laboratory: Bacteria  Virus  Protozoan

Cell lines  Human derived materials  Biologically active toxins  Animals  Species

Other potentially infectious materials  Fungi

Organism / Material
Organism / Material
Organism / Material
Organism / Material

A. Standard Microbiological Procedures				
Check the response that best describes the laboratory in which work will be performed. NA = not applicable		Yes	No	NA
1.	The laboratory supervisor must enforce the institutional policies that control			

	access to the laboratory.			
2.	Persons must wash their hands after working with potentially hazardous materials and before leaving the laboratory.			
	a. Soap & paper towels available or similar for hand washing			
3.	Eating, drinking, smoking, handling contact lenses, applying cosmetics, and storing food for human consumption must not be permitted in laboratory areas. Food must be stored outside the laboratory area in cabinets or refrigerators designated and used for this purpose.			
4.	Mouth pipetting is prohibited; mechanical pipetting devices must be used.			
5.	Policies for the safe handling of sharps, such as needles, scalpels, pipettes, and broken glassware must be developed and implemented. Whenever practical, laboratory supervisors should adopt improved engineering and work practice controls that reduce risk of sharps injuries. Precautions, including those listed below, must always be taken with sharp items. These include:			
	a. Careful management of needles and other sharps are of primary importance. Needles must not be bent, sheared, broken, recapped, removed from disposable syringes, or otherwise manipulated by hand before disposal.			
	b. Used disposable needles and syringes must be carefully placed in conveniently located puncture-resistant containers used for sharps disposal.			
	c. Non-disposable sharps must be placed in a hard walled container for transport to a processing area for decontamination, preferably by autoclaving.			
	d. Broken glassware must not be handled directly. Instead, it must be removed using a brush and dustpan, tongs, or forceps. Plasticware should be substituted for glassware whenever possible.			
6.	Perform all procedures to minimize the creation of splashes and/or aerosols.			
7.	Decontaminate work surfaces after completion of work and after any spill or splash of potentially infectious material with appropriate disinfectant.			
	a. Disinfectant(s) used in the laboratory:			
8.	Decontaminate all cultures, stocks, and other potentially infectious materials before disposal using an effective method. Depending on where the decontamination will be performed, the following methods should be used prior to transport:			
	a. Materials to be decontaminated outside of the immediate laboratory must be placed in a durable, leak proof container and secured for transport.			
	Method of decontamination			
	Method to monitor/verify decontamination			
	Location of decontamination (autoclave location)			
	b. Materials to be removed from the facility for decontamination must be packed in accordance with applicable local, state, and federal regulations.			
	Company contracted for waste disposal:			
9	A sign incorporating the universal biohazard symbol must be posted at the entrance to the laboratory when infectious agents are present. Posted information must include: the laboratory's biosafety level, the supervisor's			

	name (or other responsible personnel), telephone number, and required procedures for entering and exiting the laboratory. Agent information should be posted in accordance with the institutional policy.			
	Equipment (freezers, incubators and the like) have proper biohazard signage posted. List equipment:			
10	An effective integrated pest management program is required. See AppendixG of the BMBL			
11	The laboratory supervisor must ensure that laboratory personnel receive appropriate training regarding their duties, the necessary precautions to prevent exposures, and exposure evaluation procedures. Personnel must receive annual updates or additional training when procedural or policy changes occur. Personal health status may impact an individual's susceptibility to infection, ability to receive immunizations or prophylactic interventions. Therefore, all laboratory personnel and particularly women of child-bearing age should be provided with information regarding immune competence and conditions that may predispose them to infection. Individuals having these conditions should be encouraged to self-identify to the institution's healthcare provider for appropriate counseling and guidance.			

<b>B. Special Practices</b>		Yes	No	NA
Check the response that best describes the laboratory in which work will be performed. NA = not applicable				
<b>None Required</b>				

<b>C. Safety Equipment (Primary barriers)</b>		Yes	No	NA
Check the response that best describes the laboratory in which work will be performed. NA = not applicable				
1.	Special containment devices or equipment, such as BSCs, are not generally required			
	BSC Type,Class :			
	Last certification: Certification due:			
	a. Procedures with a potential for creating infectious aerosols or splashes are conducted. These may include pipetting, centrifuging, grinding, blending, shaking, mixing, sonicating, opening containers of infectious materials, inoculating animals intranasally, and harvesting infected tissues from animals or eggs.			
	b. High concentrations or large volumes of infectious agents are used. Such materials may be centrifuged in the open laboratory using sealed rotor heads or centrifuge safety cups.			
	Centrifuge:			
2.	Protective laboratory coats, gowns, or uniforms are recommended to prevent contamination of personal clothing.			
3.	Wear protective eyewear when conducting procedures that have the potential to create splashes of microorganisms or other hazardous materials. Persons who wear contact lenses in laboratories should also wear eye protection.			
4.	Gloves must be worn to protect hands from exposure to hazardous materials. Glove selection should be based on an appropriate risk assessment. Alternatives to latex gloves should be available. Wash hands prior to leaving			

the laboratory. In addition, BSL-1 workers should:			
a. Change gloves when contaminated, integrity has been compromised, or when otherwise necessary.			
b. Remove gloves and wash hands when work with hazardous materials has been completed and before leaving the laboratory.			
c. Do not wash or reuse disposable gloves. Dispose of used gloves with other contaminated laboratory waste. Hand washing protocols must be rigorously followed.			

<b>D. Laboratory Facilities (Secondary barriers)</b>				
Check the response that best describes the laboratory in which work will be performed. NA = not applicable		Yes	No	NA
1.	Laboratories should have doors for access control			
2.	Laboratories must have a sink for hand washing.			
3.	The laboratory should be designed so that it can be easily cleaned. Carpets and rugs in laboratories are not appropriate.			
4.	Laboratory furniture must be capable of supporting anticipated loads and uses. Spaces between benches, cabinets, and equipment should be accessible for cleaning.			
	a. Bench tops must be impervious to water and resistant to heat, organic solvents, acids, alkalis, and other chemicals.			
	b Chairs used in laboratory work must be covered with a non-porous material that can be easily cleaned and decontaminated with appropriate disinfectant.			
5.	Laboratory windows that open to the exterior are fitted with screens.			
6.	An eyewash station must be readily available			
	Safety shower available			
7.	A method for decontaminating all laboratory wastes should be available in the facility (e.g., autoclave, chemical disinfection, incineration, or other validated decontamination method).			
8.	The laboratory is equipped with Biological spill kit			
9.	The laboratory is equipped with a general first aid kit			
10.	Emergency contact information is posted near the entrance/exit or by telephones			