



DO NOT USE THIS TEMPLATE IF ANY OF THE FOLLOWING IS TRUE:

1. Human or Nonhuman primate cells, cell lines, or tissues are used
2. Viral vectors are used
3. BSL1 Infectious agents are used

Complete the BSL 2 Laboratory Biosafety manual for work involving these agents.
No BSL3 agents work is currently permitted. Contact the IBC with questions.

Instructions for use:

Complete an IBC Registration Form for your project(s) planned for the laboratory(ies) where this Laboratory Manual will be used.

Prepare the project specific pages for the BSL1 work proposed and submit them to the IBC along with the DocuSign Registration Form as an attachment.

Add any pages of additional, project-specific laboratory instructions

At the end of the Manual, print out and add project-specific instructions to this BSL1 Laboratory Biosafety Manual.

Multiple projects using the same laboratory space at BSL1 can share this base lab manual, adding their project-specific instructions at the end of it.

The combined pages should be kept in the laboratory for reference during project work.

Do not keep this instruction page with the Lab copy.



**Idaho State
University**

**Institutional Biosafety
Committee (IBC)**

BSL1 Laboratory Biosafety Manual

REVISION 1, OCTOBER 2020

For Laboratory Use in

Building Name and Room Number: _____

Principal Investigator: _____

Co-PI: _____

Emergency Contacts:

Name and Phone #s

Environmental Health & Safety – 208-282-2310

Public Safety – 208-282-2515 or 2911

Office for Research –

Research Outreach and Compliance

STOP 8286 208-282-1336 biosafe@isu.edu

I. Standard Microbiological Practices

1. A Universal biohazard symbol will be posted at the entrance to the laboratory when infectious agents or materials that are handled at BSL1 are present.
The biohazard label will read "Biohazard" "Low Risk."
2. A Laboratory Door Sign will be posted at the laboratory entrance. Templates are available from Environmental Health and Safety Office
The sign will include the following information:
 - a. Room, Building, Department, and Date.
 - b. Room Use/Description such as Research Laboratory.
 - c. The types of potential hazards present in the laboratory will be checked off on the sign. For Biological Hazards the terminology "Low Risk" will be checked off.
 - d. List the Emergency Contact information
3. Entry to the laboratory is subject to approval of the Principal Investigator listed above when work with potentially biohazardous material is being conducted.
4. All personnel working with rDNA or infectious agents at BSL1 must wash their hands after working with potentially hazardous materials and before leaving the laboratory. Keep hands away from the mouth, nose, eyes, face and hair.
5. Good Laboratory Practices will be followed at all times.
 - a. Do not eat, drink, chew gum, smoke, handle contact lenses, or apply cosmetics in any laboratory area.
 - b. All food for human consumption must be stored outside the laboratory area in cabinets or refrigerators designated for this purpose.
 - c. Mouth pipetting is prohibited. Mechanical pipetting devices must be used.
 - d. Do not store personal items such as coats, boots, bags and books in the laboratory.
6. Personnel in the laboratory will use the following personal protective equipment (PPE) when working with potentially infectious materials:
 - a. At a minimum disposable gloves and lab coats, gowns, or uniform must be used.
 - b. Personnel wearing contacts will be advised to wear eye protection when working with potentially infectious material.
 - c. Personnel will change gloves when they are contaminated, compromised, at conclusion of work, or more frequently if required. Gloves will be disposed in appropriate accumulation containers.
 - d. Gloves will not be reused.

e. Will additional PPE be used?

List these PPE. *Text field will expand* _____

Mark box, if **no** additional PPE required: N/A

7. Sharps, such as needles, scalpels, pipettes, and broken glassware will be handled in the following manner:

a. Whenever possible, use of sharps with potentially hazardous material will be avoided. Plasticware will be substituted for glassware whenever possible.

b. The handling of sharps will be minimized. Needles will not be bent, sheared, broken, recapped, removed from disposable syringes, or otherwise manipulated by hand before disposal.

c. Used disposable needles and syringes will be carefully placed in a puncture-resistant container used for sharps disposal. Sharps containers will not be beyond $\frac{3}{4}$ full.

d. Will **Non-disposable** sharps be used in this lab? Yes No

e. If *Yes*, list the types of non-disposable sharps used: *Text field will expand*

f. If *Yes*, once **non-disposable sharps** are contaminated with infectious material, select one or both of the following and provide a description.

They are placed in a hard-walled container for transport to a processing area for decontamination or

Describe the manner in which they are decontaminated below:

Text field will expand

g. **Biohazardous sharps** will be disposed when containers are $\frac{2}{3}$ to $\frac{3}{4}$ full. EH&S will be contacted to arrange disposal of biohazard sharps.

h. Broken glassware will not be handled directly. It will be removed using a brush and dustpan, tongs, or forceps and into proper disposal.

i. Are there additional precautions?

If yes, list additional precautions: _____

Mark, if no additional N/A

precautions required:

8. All procedures will be conducted in a manner that minimizes the creation of splashes and/or aerosols. Work may be conducted on the open bench; however, if procedure

produces excessive aerosols (e.g. sonication), a biosafety cabinet will be used along with eye protection.

9. Work surfaces will be decontaminated after completion of work and after any spill or splash of potentially infectious material.

Mark the applicable box and add specifics.

- 10% final concentration of household bleach made daily followed by 70% ethanol to remove bleach residue.
- Chlorine Dioxide. List final concentration: _____
- Other decontaminant – List agent and concentration: _____

10. Spills will be handled in accordance with ISU Hazardous Waste Procedures Manual. It is located on the Environmental Health and Safety Department website. All personnel will be familiar with these procedures.

Low Risk Waste (BSL1 Waste)

NOTE: ALL waste generated by the laboratory within a specific location must qualify as low risk. IF any waste does not meet this criteria, then ALL waste generated in that location must be treated as moderate risk.

11. Will liquid biohazardous waste be produced? Yes No

12. If **Yes**, liquid biohazardous waste must be decontaminated with appropriate disinfectant prior to disposal.

Mark the applicable box and add specifics.

- 10% final concentration of household bleach
- Other – List agent and concentration: _____

Contact time must be at least 30 minutes.

Following decontamination, liquid may be disposed of down the sink and the sink rinsed with water.

13. Solid waste that has been in contact with potentially infectious materials will be disposed of in the following manner [*select one method*]:

- Autoclaved and disposed – All biohazardous waste is placed in biohazard bag, with the biohazard bag then placed in an autoclavable container (i.e., polypropylene tray), and transported to autoclave on a cart. Waste is autoclaved in the tray and then placed in black plastic bag and discarded in standard waste.
- Commercial disposal – All biohazardous waste is placed in biohazard bag inside a solid biohazard container. ISU EH&S-approved commercial biohazard disposal company retrieves and disposes biohazard waste in compliance with State and Federal regulation.

14. When potentially infectious materials need to be transported outside the laboratory for decontamination (such as transport to the autoclave), the materials will be placed in a durable, leak proof container and secured for transport.
15. If potentially infectious materials will be shipped from the facility, the EH&S office must be contacted for guidance at (208) 282-2310. All appropriate local, state and federal (U.S. Department of Transportation) regulations must be followed. For air or international shipments, International Air Transportation Association (IATA) rules must be followed. Contact EH&S before shipping and receiving dangerous goods.
16. All incidents of actual or potential exposure or accidents involving potentially infectious material will be reported to the Principal Investigator/Laboratory Supervisor/Instructor. The PI/Laboratory Supervisor will submit an incident report to the IBC. The reporting procedure is found in the *ISU IBC Handbook as Section F – Accident /Exposure/Noncompliance Incident Report*.
17. All laboratory personnel will be informed of these biosafety practices and procedures and the principal investigator/laboratory supervisor/instructor will ensure that laboratory personnel receive appropriate training regarding their duties, the necessary precautions to prevent exposures, and exposure evaluation procedures.
18. Documentation of training will be maintained in the laboratory. Lab personnel will receive annual updates or additional training when procedural or policy changes occur.
19. All personnel are to be instructed that their health status may have an impact on their susceptibility to infection and the availability of immunizations or prophylactic interventions. Therefore, all laboratory personnel (particularly women of childbearing age) will be provided with information regarding immune competence and conditions that may predispose them to infection. Personnel that have conditions that would render them more susceptible to infection, or who are pregnant, will be encouraged to self-identify these issues to the PI/Laboratory Supervisor/Instructor and their personal physician, such that appropriate counseling and guidance can be provided.

II. The Safe Use of Autoclaves

There are many different types of autoclaves used on the ISU campus. It is the responsibility of the supervisor to ensure that all authorized individuals are properly trained on the use of the autoclave(s) used by laboratory personnel.

1. Will Autoclaves be used by this laboratory's personnel? Yes No

If **Yes**, list the location with the point of contact responsible to maintain the autoclave in the table below:

Machine brand	Location (room & building)	Person responsible for arranging maintenance	Date Last Maintained	Service Vendor

2. Training on the use of autoclaves will consist of the following (a. through h.).
 Maintain training records in the laboratory and make them available for review by EH&S and IBC upon request.
 - a. Appropriate PPE requirements such as the use of heat resistant gloves, lab coats, safety eye and face protection.
 - b. A discussion of the types of items that can and those that cannot be autoclaved.
 - c. Proper packaging of biohazardous wastes for autoclaving.
 - d. Methods for loading materials into an autoclave and unloading procedures.
 - e. The use of test strips and biological indicators for quality control.
 - f. Autoclave operational procedures including emergency shutdown precautions.
 - g. How to dispose of autoclaved waste.
 - h. Record keeping.
3. Maintenance and Testing of Autoclaves
 - a. Department or person responsible for autoclave must properly maintain and service the machine.
 - b. Department or person responsible for autoclave must occasionally quality tested to ensure proper sterilization procedures are met and decontamination of biohazardous waste is complete.

Principal Investigator/Lab Supervisor/Instructor Certification

I hereby certify that I have reviewed these practices and procedures and they represent the current operating practices in my laboratory.

Signature: _____ Date: _____

Annual Review Signature: _____ Date: _____

Annual Review Signature: _____ Date: _____

Annual Review Signature: _____ Date: _____

Personnel Certification

We, the undersigned, have reviewed these practices and procedures, have been trained in the appropriate methods and practices for handling potential infectious material, and agree to follow the practices and procedures stated in this Biosafety Laboratory Manual. We understand that we must review and document compliance with these practices and procedures on an annual basis.

<i>Name</i>	<i>Date</i>	<i>Signature</i>

Tab through this table to add rows to type additional names.