

Biological Safety Training Requirements

I. BIOLOGICAL AGENT

- A. Specific Hazards of the Agent: NONE
- B. I have read the protocol for this project: YES_____ NO_____

II. LABORATORY PRACTICES

A. Laboratory Techniques

1. Pipetting: Mechanical pipetting devices are to be used at all times. Mouth pipetting is forbidden
2. Needles and Syringes: Needles are to be used only for non-hazardous materials and after use will be promptly placed into hard walled sharps containers
3. Freeze-drying specimens: Not applicable
4. Opening culture plates, tubes, bottles and ampules: Standard aseptic techniques will be used. Containers containing volatile liquids will be opened in the fume hood.
5. Centrifugation: Sealed shatterproof bottles will be used. Samples will be weighted and balanced prior to spinning. In the event of a spill, the centrifuge and rotor will be cleaned and decontaminated. No one will attempt to override the door lock or to stop rotors manually.
6. Blenders, mixers, sonicators, and cell disruption equipment: Ear protection will be worn when using this equipment. Equipment will be disinfected and cleaned before and after each use.
7. Burners, heating blocks and other heating devices: Hot items will be handled with safety gloves. Flammable materials will not be allowed in the vicinity of open flames. Sills in the microwave will be cleaned and disinfected immediately.

B. Personal Hygiene Habits and Practices:

Eating and drinking will be allowed only in designated clean areas. Biological agents, chemicals, and radioactivity are not allowed in clean areas. Hands must be washed after handling biological, chemical or radioactive agents.

C. Protective Clothing

Lab coats, UV safety glasses, UV safety face shields, safety gloves, and masks will be worn when appropriate. Double gloves, safety glasses, and lab coat must be worn when working with radioactivity. All work will be done on spill paper and behind Lucite shielding when working with radioactivity. Closed toe shoes should be worn in the lab.

D. House Keeping

Work surfaces will be cleaned frequently with dilute detergent and/or 10% bleach. Spills will be cleaned up immediately and decontaminated with 10% bleach or disinfectant. Waste will be disposed of in the appropriate container

E. Decontamination and Disposal

1. Disinfectant methods
 - a. Cultures will be treated with either 10% bleach or disinfectant before disposal.
 - b. Plates will be autoclaved for 30 min. at 121 degrees centigrade prior to disposal. Autoclave indicator tape will be used to ensure proper sterilization.
 - c. Spills will be treated with 10% bleach or disinfectant.
2. Characteristics of chemical disinfectants used:
 - a. 10% bleach is mildly caustic. Care must be taken to avoid contact with mucous membranes and clothing.
 - b. When commercially available disinfectant is used manufacturer's warnings and instructions will be followed.
 - c. 70% ethanol is volatile and flammable, and will not be used near open flames.

3. Autoclave use:
 - a. autoclave must be full closed prior to starting. When autoclave cycle is complete, the autoclave should be opened slowly to allow for the exhaust of hot steam.
 - b. Bottles containing liquid will be autoclaved in a pan containing 1 inch of water to prevent cracking.
 - c. Bottles containing liquids should be autoclaved on slow exhaust. Lids should be secured but not completely tightened to allow for pressure differentials. After autoclaving, liquids should be allowed to cool before being removed from the autoclave. Super heated liquids can boil over and cause sever burns.
 - d. In the case of spills the autoclave will be cleaned up immediately
4. Lab spills:

Spills will be contained and decontaminated immediately using 10% bleach or disinfectant.
5. Disposal:
 - a. Decontaminated liquids will be poured down the drain.
 - b. Decontaminated solids will be thrown in regular trash
 - c. All sharp objects; including glass, razor blades, syringes etc. after decontamination will be disposed of in an appropriately marked sharps container. A separate sharps container will be supplied for radioactive sharp objects.

III. CONTAINMENT EQUIPMENT

- A. Biological Safety Cabinet: Not required
- B. Other: Not applicable

IV. OTHER HAZARDS

1. UV Light: Face mask and Safety glasses will be worn when exposed to UV light. In addition, skin protection (either by long sleeves or lab coat) will also be required.
2. Electrophoresis equipment: Care must be taken around all electrophoresis equipment. No personnel will attempt to bypass or manually override safety devices on gel boxes and power supplies.
3. Freezers/Dry ice: Gloves will be worn when removing objects from the ultra low freezer (-80°C) or when handling dry ice. Dry ice will not be placed in the sink.
4. Chemicals. All volatile chemicals will be opened and dispensed in the fume hood. In addition, the fume hood will be used for all chemicals whose use requires appropriate ventilation. All flammable chemicals will be stored in a flammable resistant cabinet appropriately marked. All corrosives will also be stored apart and in the appropriate type of cabinet. A flammable resistant/explosion proof freezer will be used to store any flammable chemicals required to be kept cold.

V. EMERGENCY PROCEDURE

1. Notify the principle investigator when the accident occurs. Office 752-9005
2. In case of emergency, call 911 for assistance
3. Report injury cases or exposure to the Occupational Health Physician at the student health center (752-2330) and the office of Environmental Health and Safety (752-1493)
4. Emergency phone numbers and procedures will be posted in the Lab

DATE: _____

BAUA: # _____

Principal Investigator

By your signature below, you are acknowledging that you have received safety information and instruction regarding the above items.

Employee's Name (print or type)	Employee's Signature	Date
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____
6. _____	_____	_____
7. _____	_____	_____
8. _____	_____	_____
9. _____	_____	_____
10. _____	_____	_____
11. _____	_____	_____
12. _____	_____	_____