

LABORATORY

Introduction and Lab Safety

1

OBJECTIVES

- To review and emphasize student safety practices in the micro lab
- To familiarize students with location of all class supplies and sites for personal equipment, cultures, contaminated glassware, etc.

SAFETY

Safety precautions are necessary in any lab when you are working with chemicals, glass, hot water baths, sharp instruments, and the like. In this class, you will be examining and handling microorganisms, which requires additional safety procedures. This type of work must be conducted with good aseptic technique in a scrupulously clean, well-ordered environment. Even though the organisms we will work with are not considered pathogenic, **any** culture of **any** organism should be handled with respect for potential pathogenicity. Any organism can become an **opportunist**.

Microbiology lab safety rules include the following:

1. Books, coats, and packs must be kept away from the lab tables and chairs. Place them in the back of the room when you come to class. A purse may be kept in the lab drawer or on the floor at the lab table if you prefer. Only necessary materials should be present on the lab table.
2. Wash hands with soap and warm water and wipe bench tops with disinfectant before starting any lab exercise and after all work has been completed. Discard paper towels in waste basket.
3. Lab must be kept clean. You are responsible for your work area. Return supplies to appropriate place when finished. Wipe up stain or chemical spills and mop up messes at the sinks. In case of a culture spill, report to the instructor for proper disinfectant procedure.
4. Measurement and transfer of liquids is accomplished by pipetting with the appropriate pipetting device.
5. No food or drink, children, or smoking in the lab. Never apply cosmetics or put anything into your mouth while in the lab (gum, pencils, pens, etc.).
6. Long hair must be tied back, and avoid loose clothing (fire hazard.) Closed-toe shoes are recommended. Personal protective equipment (eye protection, lab coats, gloves) must be used in appropriate situations.
7. Report all injuries to the instructor immediately.

8. Students must sign a copy of the laboratory safety agreement at the beginning of the term, indicating they have read and understand the lab safety rules.

Proper handling of bacterial cultures includes the following:

9. Inoculation loops and needles are flamed before and after use. Sterile pipettes are handled properly.
10. Aerosols created by splattering of cultures are prevented by proper flaming and cooling of needles and loops before use.
11. The mouth of test tubes and other culture vessels are flamed, and sterility of glassware is maintained.
12. Everything going into the cold room or incubator must be labeled with name and other data, using black marking tools. It should be clearly identified as to microbial content. Do not touch another person's plates or tubes in the cold room or incubator. The assigned student culture number is to be put on all tubes and plates.
13. Exercise care in carrying cultures across the room. All transfer of cultures and staining is to be done over a cleaned lab bench area—not over your notebooks or the floor. Never carry a loopful of cultures across the room!
14. Non-contaminated waste goes into the waste basket. Contaminated disposable waste goes into the autoclavable bags. Contaminated glassware goes in baskets or racks on the indicated bench, vertically. Never lay tubed media down horizontally, at anytime—it will spill.

LAB ORIENTATION

Students should become familiar with the location and proper use of the following:

Incubator and cold room assigned area (be sure you can easily access)

Slide staining racks and sinks

Reagent and stain bottles

Paper towels, soap, warm water

Table for contaminated glassware, bags for contaminated media

Proper disposal of pipettes, tubes, Petri dishes, slides

Microscopes

Drawer and contents—maintain your assigned drawer throughout the term:

Inoculating needle and loop

Marking pencil

5 microscopes slides

2 clothespins (slide holders)

Lens paper