

# Critical Laboratory Orientation

## FOOD SAFETY LAB STOCKING HALL 350 – 358

**Objective:** To provide everyone with standard operating procedures (SOP's) to maintain general laboratory function. This document will accompany a required lab orientation/tour led by a technician. Everyone is responsible for knowing and enforcing these SOP's at all times. Questions and/or additions to this protocol can be addressed to one of the technicians.

### I. Safety

1. Personal Safety: the emergency showers are located in 350, 352, 354 and 358 and eye washes are located in 350, 352, 354 and 356; first aid kits are kept in the lab in 352 and 358. You should know where to find the one nearest your bench/desk. In the event of an emergency, fire alarms are next to the stairs in the hall. In the event of an emergency you must act! See the emergency procedure at the end.
  
1. BSL-1 and BSL-2 Organisms and Proper Handling Techniques For Each.
  - Always wash hands after handling BSL-1 or BSL-2 materials (even if you were wearing gloves).
  - Wipe down benchtop and pipettors with 70% ethanol, 10% bleach or Lysol before and after using with BSL-1 or BSL-2 organisms.
  - Use gloves for ANY centrifugation and aspiration since BSL-1 and BSL-2 materials share the same centrifuge.
  - All liquid BSL-2 waste is to be treated at the BSL-2 treatment center in 352 Autoclave room only. Anyone handling liquid waste must be trained on procedures for disposal.
  - In the event of a spill, wash your hands and any affected skin immediately. If the spill is on your clothes, use 70% ethanol to disinfect. Spills on benchtops and floors may be cleaned with 20% bleach, Lysol, or 70% ethanol. If an open cut is affected, or a pathogen comes in direct contact with your eyes or mucus membranes, contact a technician and seek medical care at Gannet. Eyes should first be flushed in one of the lab's eyewashes.
  - All lab members should Refer to the Food Safety “*Lab Safety and Waste Disposal*” SOP and the Cornell University BSL1/BSL2 Written Program.
  
2. Know Safety Information For Every Chemical You Work With.
  - Material Safety Data Sheets (MSDS) can be found online OR in a binder in room 352 (above desk).
  - Refer to the Cornell University Laboratory Safety Manual and Chemical Hygiene Plan binders, located above the phone in room 352 (above desk). Section 7 details chemical disposal.
  - Common buffers used within the lab are listed and posted.
  - Wear Nitrile gloves when handling Ethidium Bromide and phenol.
  
3. Labeling of all reagents, plates and flasks.
  - All bottles, flasks, plates, tubes, etc. that you use must be labeled. This includes the name of the solution/organism/media, date, and your initials.

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- If you have stacks of plates or a whole rack of tubes, you do not have to label each one, but place tape around them/over them, labelled, e.g., “L. mono., BHI, 4/1/13, SSR.” The organism, the media it is grown in, the date, and the person are thus identified.

### 4. Bench-top Safety

- Do not leave a Bunsen burner on when away from bench.
- Do not flame any bottles/tubes containing ethanol or other flammable liquids.
- All reagents, bottles or media MUST be labeled clearly with the reagent's name, date and your initials. Some reagents, such as bleach or ethanol in secondary containers, may require a right to know (RTK) label.

### 5. Mandatory Training is required before use of the following equipment (persons responsible for training in parentheses):

- Autoclave (Maureen/Alan)
- Large centrifuges, microcentrifuges (Sherry)
- Gel staining room (Shelley/Sophia)
- PCR room and PCR machines (Sam/Erika)
- Nanodrop (Sophia/Sherry)
- Bioanalyzer (Sherry/Sophia)
- Plate reader (Lory/Laura)
- Spiral plater/Q-Count (Jordan/Sam)

Note: New lab members/members of other labs using a piece of equipment listed above must be trained by one of the people responsible for training on that piece of equipment and receive a copy of the SOP for that equipment. Both the person training and the person being trained must record the date of the training and their initials in the training binder kept in 352 (shelving above flammable cabinet).

### 6. Eating and Drinking

- No food or drink is allowed in the laboratory.

## II. Trash Disposal and Autoclave

\*\*Gloves must be worn while collecting and bagging BSL1 or BSL2 waste!

### 1. Autoclaving Trash

- All waste must be in double clear bags.
- Do not overfill autoclave bags. ~5/8 full is a good estimate. If a bag is too heavy, please portion into a separate bag.
- BSL-1 bags are taken to room 358 and placed in the black bin labeled “BSL-1 to be autoclaved”. BSL-1 is autoclaved 60 minutes at 121° C, then put in the trash.
- BSL-2 is put into red biohazard bags, tagged, and taken away by EH&S.

### 2. Glass Disposal

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- A recycling bin is located in the hallway for glass drink bottles and cans. The blue bins within the lab are for paper and cardboard only.
- There are two buckets for uncontaminated glass, one in the media room and one in the autoclave room.
- Red sharps containers in the labs are for “sharps” and BSL-1 and BSL-2 contaminated glassware.
- Glass should NEVER be disposed of in regular BSL-1 or BSL-2 waste bins or the trash!

### 3. General

- Remove labels, autoclave tape and sharpie marks from your glassware before putting them into the proper bins.
- Cardboard must be broken down and flattened before being put into the 358 Alcove for removal.
- Keep common areas (PCR room, post-PCR bench, electrophoresis room) tidy and stocked with appropriate tips, tubes and gloves.

### III. General Laboratory Operation

#### 1. Ordering

One or two staff members in the lab are designated to be responsible for requesting stock laboratory supplies and reagents on a regular basis (currently Jordan Skeens and Maureen Gunderson). However, ALL lab members are responsible for requesting items to be ordered when they are running low and BEFORE they run out, so please anticipate your needs for materials, chemicals, and reagents to avoid rush orders. Items in need of ordering should be recorded on the clipboard located on the table in room 358 Stocking Hall and also sent to Nancy Carey (nrs13), who is in charge of ordering, in a mini Excel spreadsheet as below. Fill in all the information you have available and be sure to include your NAME.

Date of Req.			Catalog No.	Company	Item or Service	Size	Quantity				Comments	Name

DO NOT delete any columns, but you may add as many rows as needed.

Please anticipate your needs for all supplies, including chemicals and reagents to avoid rush orders. Also, all lab members are responsible for recording and requesting items to be ordered when they are running low and BEFORE they run out.

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- We rely on everyone to help keep track of supplies. When low on items, especially common supplies such as Taq, enzymes, plates, tubes, tell a technician immediately!
- Likewise, inform Yichang or Sophia if the Ethidium Bromide (EtBr) stain is taking longer than 3 minutes to stain (i.e., it is too weak).

### 2. Receiving Orders

- Packages arrive at the loading dock twice a day (approximately 10:30 am and 3:30 pm). It is the responsibility of designated lab personnel to check for packages at those times (presently Jordan Skeens, Maureen Gunderson, and Alan Bitar).
- If, for some reason, you should need to help distributing items, the clipboard list should indicate who ordered the items. Ask for help if you do not know where a package should go!
  - Items that require low temperature storage should immediately be placed in designated locations and the requestor notified of their arrival.
  - Other items should be placed on the table in the room 358 Alcove for retrieval and the requestors notified.
  - On the packing slip, put a check next to the items received and date and be sure to initial the sheet. Put the packing slip in the filing tray on the table in 358. Please add a note if any items on the packing list are missing or if the wrong quantity was sent!
  - Also write the date of arrival on the clipboard sheet next to each item.

### 3. Plating Materials

- Maureen makes certain types of STOCK media. If you need any other media or large quantities of stock media for your experiments, please plan ahead and let her know far in advance. (If there is occasion that you need to make your own media, protocols are located in the media room. If you have questions, ASK!)
- All antibiotic plates, common and personal, must be labeled with the established antibiotic labeling system. Sheets are posted on the cold-room door and at the plate pouring area explaining this system.

### 4. Equipment

- Certain equipment (such as the spectrophotometer, centrifuges, and plate readers) should NOT be on all times. If there is no “machine in use” designation on a sign-up sheet, and you are absolutely certain that the machine is not in use, please shut the equipment off.
- PCR machines should not sit at 4° C indefinitely. Always place a PCR rack with the date, your initials and reaction name at the machine so that your samples can be moved to a –20° C freezer and the machine shut-off.
- Please leave the 55° C heating blocks on at ALL times.

### 5. Enzymes

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- Stock enzymes should not be kept out of the freezer or refrigerator any longer than necessary. When taken out of their storage location, enzymes should be kept on ice at all times. For example, when setting up a PCR, take the polymerase out of the freezer after all other master mix reagents have been added. After adding, immediately return the polymerase to the freezer. Please see a technician if you have any questions regarding handling enzymes.
6. -80°C Freezer Use
- \*\*Should never be open for more time than necessary!**
- Have an ice bucket ready, and know where you're going within the freezer. Move as quickly as possible!
  - Pull tower up and remove box. Try to not remove the whole tower from the freezer. Close freezer, remove cryovials, and put them directly on ice. Once you have your cryovials on ice, put the box back into the tower in the freezer. When finished, return cryovials back into the freezer tower quickly.
7. Required Common Duties
- Computer room - use scrap paper (i.e., one side has been used) if available, for drafts and new sheets of paper for final copies of manuscripts, etc.
  - Use the copier in the lunch room.
  - Answering the phone and taking messages (remember to remove gloves before answering phone).
  - The "Employee Responsibility List", which contains a listing of lab jobs and the responsible person, is posted by the lab computers, and can be found on the lab WIKI. Refer to this list for help with familiarizing yourself with the lab.

### **IV. \*\*Emergency Procedure\*\***

In the event of an emergency, the fire alarm will go off and keep sounding until the Fire Department gets here and turns it off. Martin is responsible for clearing the lab. If he is out of town, Sherry and Nicole are in charge of the evacuation.

**Blue tiles on the floor indicate an exit from the lab.**

**Turn off any bunsen burner you have on and immediately leave the lab.**

To report an emergency, reach campus emergency personnel by dialing **911**.

Kathryn (227-5832; cell phone) or Martin (227-5903; cell phone) can (and should) also be called **at any time (day or night!)** for help.