

# PROTOCOL FOR SCIENCE EQUIPMENT USAGE WITH EMPHASIS ON BS240/242: MICROORGANISMS AND THEIR HUMAN HOSTS

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## Personnel

**Maija Bluma** (573- 651-2069; mbluma@semo.edu) is the Microbiology Preparation Technician for the Cape Girardeau, Sikeston, Malden, and Kennett campuses.

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**Equipment** – pictures of most items are included. Most items were photographed with a ruler or meter stick to help with identification.

**Coolers** - The Micro. Tech. will send down labeled coolers (usually 2, see below) to each Campus with media and cultures according to the schedule provided by Dr. Frazier, or based upon a pre-arranged schedule agreed to by both the Tech. and the instructor. It is the responsibility of the instructor to promptly unpack the cooler, store the media/cultures appropriately and send the empty cooler back to the Tech. at the Cape Campus. Equivalently, the Tech. will unpack and process materials sent up to Cape and return the empty cooler back to its respective center. Generally, we would like to keep one cooler at each Campus for shipping waste up to Cape and one cooler at Cape for sending supplies down to each center. The coolers are transported daily by a courier. The courier service is coordinated through the office personnel at each Campus. **NOTE:** Any coolers shipped back to Cape with micro waste in them should have the lid taped shut. This is to help prevent spills and inform the staff of the cooler's contents.





### **Biohazard and Infecon Waste Disposal Bags -**

When a Biohazard bag (orange or red bag, on right) is full, place it into an "Infecon" bag (clear, with sealable "zip-lock" style opening, on left). Then, send the double-bagged waste to the Cape Campus in the coolers. NOTE: the Infecon bag has less capacity than the Biohazard bag – please don't let the Biohazard bags get so full that they won't fit into the Infecon Bags.

**Phenol** - Phenol (1% solution) should go in the small (approx. 1 gal.) carboys (at right) with spigots. The carboys can then be kept at convenient locations around the room. Students should wet a paper towel with phenol and wipe down their desktop/area both before and after each micro. lab session. Used phenol towels and other "soft" micro waste should be put into the Biohazard bags **???located where????**

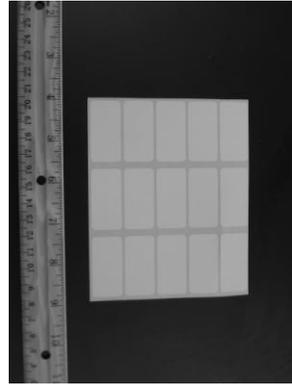
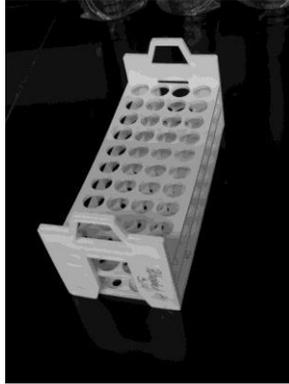
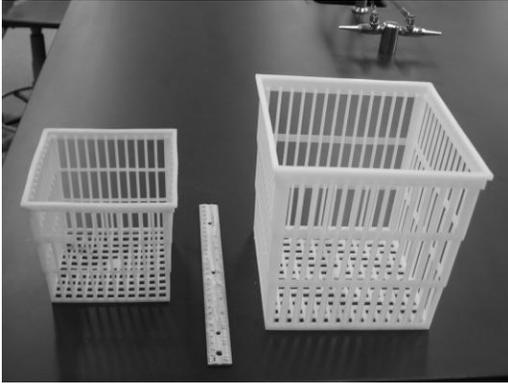


**Petri Plate Disposal** - There are mid-sized (about 5 gal.) plastic containers with lids (left). These are for plate disposal. Line the container with a Biohazard bag. It is important to encourage students to use aseptic technique when handling the container lids. When the containers are getting full, remove the Biohazard bag and seal it inside an Infecon bag, then ship it to the Cape Campus in a cooler. The Tech. will autoclave and dispose of them. Also, until you hear otherwise, you

may allow students to discard gloves and paper towel from the table wipe-downs in these containers.

**Test Tube Disposal** - When test tubes have been used, place them in the test tube racks (below, center) if available. Alternatively, tubes can be sent back in the test tube baskets (below, left) if they are placed vertically. Please make sure to stuff paper towels in around test tube in baskets if the baskets aren't full - the idea is to keep the tubes from falling over and spilling during shipment. Double bag the racks/baskets as per above and place them upright inside a cooler for transfer back to the Cape Campus. The Tech. will autoclave them for re-use. NOTE: Test tube labels (below, far right) or tape **must** be

removed prior to returning to the Cape Campus. Additionally, please be sure to coordinate with the Micro. Tech. regarding the availability of the test tube racks and baskets. You will want to keep some around for student use and for use in other classes. However, as there always seems to be a shortage of racks, please keep only those labeled for use at your campus.



### Pipetters/Pipettes



**Pipette Disposal** - There are lidded cylinders that sit on the floor (about 2ft. tall, below). These are for pipette disposal. Line the cylinder with a Biohazard bag and when full, place the Biohazard bag in an Infecon bag, seal, and ship to the Cape Campus. Please be careful with broken pipettes - place bags with broken pipettes in a small cardboard box (just enough to cover the bottom of the bag) before placing in a cooler.



**Sharps** - Additionally, broken test tubes, slides, and other sharp objects should be disposed of in the small "sharps containers" - small (about 8 inches on a side) lidded boxes with a slit in the top (left). Again, when full, use the double bag procedure, place the bag in a small box, then into a cooler and ship to the Cape Campus. Be sure to order a replacement sharps container as the full ones are autoclaved and destroyed in Cape.



**Broken Glass Box** – NOTE: This box is for large pieces of broken glass only. It is probably best to keep these in the prep room away from the students as they tend to fill them with paper towel and other non-glass waste. Small glass pieces can be discarded in the sharps containers (see above). When the box is full or full enough, tape the lid shut (both the hole in the top and around the lid) and send it back to the Cape Campus for disposal.

**Staphylococcus aureus** Anytime Staphylococcus aureus is used, special procedures are required...



**Compound Microscopes** - Please do what you can to prevent students from using any microscope lenses, other than the 100x oil immersion lens, when using oil. The lower power lenses of some of the scopes are not sealed and the lenses are ruined when they are dragged through the oil. Please make sure the microscopes are not scooted or slid across the table surfaces – vibrations will throw the lenses out of alignment – a costly repair. Also, please make sure your student always use two hands to carry the scopes – they cost about \$3000.00 each to replace.

**Stereo/Dissecting Microscopes** –



**Lens Paper -**



**Incubator -**



**Fume Hood -**



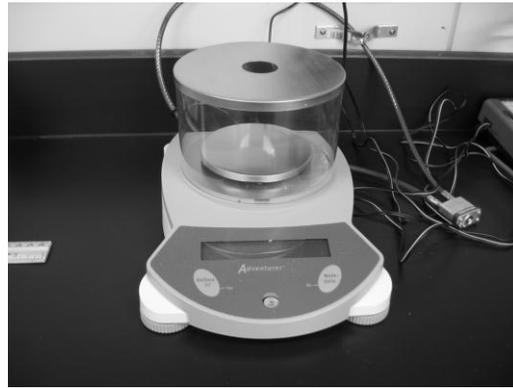
**Centrifuge -**



**Spectrophotometer -**



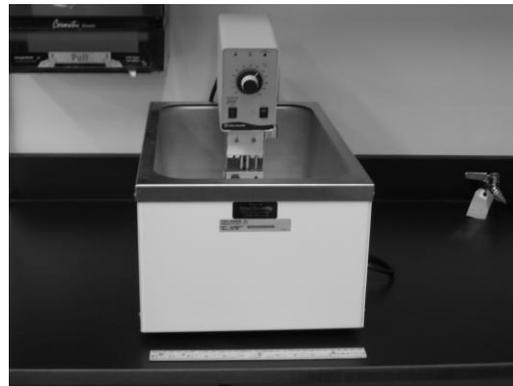
**Digital Balance –**



**Light Box –**



**Water Bath –**



**Wash Bottles –** for distilled water or a 10% bleach solution.



**Slide Racks –**



**Reagent Bottles –**

