Institutional Biosafety Committee
The UNIVERSITY of OKLAHOMA

Standard Operating Procedure

Biosafety Level 1 (BSL-1)

Standard Laboratory Practices

- Access to the laboratory is limited or restricted at the discretion of the laboratory director.
- Do not store food in lab.
- Do not eat, drink, smoke, handle contact lenses, apply cosmetics (including chap stick), etc. in the lab.
- Do not mouth pipette!
- Laboratory personnel must be appropriately trained.
- The safety protocol (SOP) serves as training documentation and reference information. A copy signed by laboratory personnel should be kept in the lab's safety manual.
- Infectious or biohazardous materials must be transported in sealed primary container inside a sealed durable and leak proof secondary containment labeled with a biohazard sticker.
- All procedures should be performed carefully to minimize the creation of splashes or aerosols.
- Work surfaces should be decontaminated at least once a day and after any spill of viable or potentially infectious material with an appropriate disinfectant.
- Sharps should be handled with extreme caution to avoid cuts or autoinoculation during use and disposal. Needles should not be bent, sheared, or recapped. The needle and syringe should be promptly placed in a puncture-resistant container and decontaminated, by autoclaving or incineration.
- Decontamination:
    - Liquid: cultures and liquid waste by adding bleach to a final concentration of 10% bleach for a minimum of 30 minutes.
    - Solid waste: Dispose of solid wastes (such as Petri dishes, inoculating loops, disposable centrifuge tubes, pipettes and gloves) in red biohazard bags, which are autoclaved and placed in black bags for final disposal.
    - Surfaces: Decontaminate work surfaces with 70% ethanol or 10% bleach (made fresh weekly) after a spill and when work is completed for the day.
    - Materials to be decontaminated outside the lab must be placed in a durable leak proof container and secured for transport
- Laboratories must have a sink for handwashing. Lab personnel must wash their hands after they handle viable materials and animals, after removing gloves, and before leaving the laboratory or animal facility.
- The laboratory should be designed so that it can be easily cleaned. Carpets and rugs in laboratories are not appropriate.
- Laboratory furniture must be capable of supporting anticipated loading and uses. Spaces between benches, cabinets, and equipment are accessible for cleaning.
- Bench tops must be impervious to water and are resistant to moderate heat and the organic solvents, acids, alkalis, and other chemicals (such as those used to decontaminate the work surface and equipment).
- Chairs used in laboratory work must be covered with a non-porous material that can be easily cleaned and decontaminated with an appropriate disinfectant.
- Laboratory windows that open to the exterior should be fitted with screens.

Personal Protective Equipment (PPE)

- Personnel are encouraged to keep a change of clothes in lab in the event their clothes become contaminated.
- Wear lab coats and gloves when working with bacterial cultures.
- Wear safety glasses when splashes sprays or aerosols can be expected.
- Dispose of contaminated gloves and disposable lab coats in biohazard bags/containers.
- No personal protective equipment is to be worn outside of the lab.

Spill Procedures

- Alert personnel in vicinity to leave the immediate area.
- Don protective equipment (gown/lab coat, gloves, eye protection).
- Cover an area twice the size of the spill with paper towels, or other absorbent material.
- Pour disinfectant solution onto the spill, starting at the perimeter and working inward from the edges of the towels. Avoid splashing.
- Allow 30 minute contact period.
- Wipe down any contaminated stationary equipment or furniture twice with disinfectant. Contaminated fabric-covered furniture or porous material should generally be treated with disinfectant.
- Use forceps, tongs, or broom to remove broken glass and other items; place in sharps container or red bag, as appropriate.
- Remove towels and re-clean area with disinfectant solution.
- Collect and dispose in autoclavable biohazard bags.
- Decontaminate (autoclave, or use a chemical disinfectant) reusable clean-up items and other permanent equipment.
- Inform laboratory personnel when the clean-up is complete.
- Dispose of contaminated PPE in autoclavable biohazard bags.

Spills inside a centrifuge

- Shut centrifuge off and do not open the lid for 20 minutes to allow aerosols to settle.
- Put on PPE.
- Use a squeeze bottle to apply disinfectant to all contaminated surfaces within the chamber, taking care to minimize splashing.
- Allow 20 minute contact period and then complete clean-up of the chamber.
- Remove buckets and rotors to nearest Biological Safety Cabinet; disinfect and clean as per manufacturer's instructions.