

BSL-2 Requirements

Standard Microbiological Practices & PPE

1. Eating, drinking, smoking, handling contact lenses, applying cosmetics and storing food for human consumption is not be permitted in laboratory areas. Food must be stored outside the laboratory area in cabinets or refrigerators designated and used for this purpose.
2. Mouth pipetting is prohibited; mechanical pipetting devices must be used.
3. Perform all procedures to minimize the creation of splashes and/or aerosols.
4. Lab coats and closed-toe shoes are required for work in the laboratory
5. Gloves must be worn when working with hazardous materials. Glove selection is based on a risk assessment of the materials to be used. Gloves must be changed when contaminated or integrity is compromised. Gloves must be removed and hands washed before leaving the laboratory.
6. Decontaminate work surfaces after completion of work and after any spill or splash of potentially infectious material with disinfectant appropriate for agent(s) in use (5% phenol, 10 % v/v bleach, SporKlenz, etc.). Alcohols are NOT acceptable for surface decontamination but may be used to remove disinfectant residue.
7. All personnel must receive appropriate training regarding their duties, the necessary precautions to prevent exposures and the exposure evaluation process. Personnel must receive annual updates or additional training when procedural or policy changes occur.

Biohazardous Waste

1. All cultures, stocks and other potentially infectious materials must be decontaminated prior to disposal using an effective method.
2. Materials to be decontaminated outside of the immediate laboratory must be placed into a closed bag, sprayed with disinfectant, and placed in a durable, leak-proof container and secured for transport.
3. Materials to be removed from the facility for decontamination, such as through SteriCycle, must be placed into the provided container lined with a plastic bag and prepared for pickup following the guidelines for proper disposal of biohazardous waste (https://www.uthsc.edu/safety/pdfs/proper_biohazardous_waste_disposal.pdf). Biohazardous waste disposed of through the SteriCycle waste stream does NOT require autoclaving prior to placement into disposal container.
4. Biohazard waste containers must be hard-sided and easily decontaminated with liquid disinfectant. A lid must be placed on the container when not in use.
5. All potentially infectious liquid waste will be decontaminated either by addition of bleach to a final concentration of 10% (v/v) for at least 1 hour or via autoclaving. Waste treated with bleach or other chemical must not be autoclaved.

Spill response: Spill response procedures for BSL-1/2 infectious agents are described on the safety website (http://www.uthsc.edu/safety/pdfs/bio_spill_sop.pdf) and will be followed for spills.

Special Practices – BSL-2 Laboratories

1. All laboratory personnel must have specific training in handling pathogenic agents and all work must be performed under the direction or supervision of a scientist competent in handling infectious agents and associated procedures
2. Access to the laboratory is restricted when work is being conducted.
3. Equipment must be decontaminated before repair, maintenance or removal from the laboratory.
4. Vacuum lines used to aspirate culture medium are protected with disinfectant traps and have a hydrophobic filter placed between the trap and the vacuum port.
5. PPE must be worn while working with hazardous materials and must be removed prior to leaving the laboratory area.

6. A sign incorporating the universal biohazard symbol must be posted at the entrance to the laboratory when infectious agents are present and must include the following information: Biosafety level, name of the agent(s) in use, and name and phone number of the laboratory supervisor or other responsible personnel. Signage can be downloaded at:
<https://www.uthsc.edu/safety/safetyinfo.php>

Safety Equipment- Primary Barriers BSL-2 Laboratories

1. Class II biological safety cabinets (BSCs) are used (when possible) for procedures with a potential for creating infectious aerosols or splashes or when high concentrations or large volumes are used. The procedures may include pipetting, grinding, blending, shaking, mixing, sonicating, or opening containers.
2. Centrifugation of high concentrations or large volumes of infectious agents may be performed in the open lab if sealed rotor heads or safety cups are used.
3. Eye and face protection (goggles, mask, face shield or other splatter guard) are used for anticipated splashes or sprays of infectious or other hazardous materials when the microorganisms must be handled outside the BSC. Eye protection is required if contact lenses are worn.