



## Laboratory Standard Operating Procedure (SOP)

Principal Investigator			
Locations (building codes & room numbers)			
Phone numbers to reach PI in case of emergency			
<b>Main number</b>	<b>Mobile number</b>	<b>Alternate Contact number</b>	
IBC approved disinfectants (agents treated with the same disinfectant can be listed together)			
<b>Biological agents</b>	<b>Disinfectant</b>	<b>Concentration</b>	<b>Contact Time</b>

**Scope:** this SOP is intended for work with biological materials in research laboratories.

### Before beginning work with biological materials:

- All research personnel must be added to the appropriate biosafety protocol (BSP) and must complete Initial Biosafety and Bloodborne Pathogen Training; refresher training must be completed annually.
- All research personnel must obtain clearance from Employee Health and Wellness before working with potentially infectious materials (including unfixed human specimens or cell lines) or with biological toxins.
- Research personnel must receive laboratory specific training and be made aware of the hazards and appropriate safety precautions before working with biological materials; this training will include review of the BSP and any SOPs.

### Attire and personal protective equipment (PPE) requirements:

- Long pants or ankle length skirts (no shorts or short skirts) and shoes that cover the entire foot (no sandals or flip flops, no ballet flats) are required for entry into areas where biological materials are handled or stored.
- Gloves, lab coat and eye protection (i.e. safety glasses) are required when working with biological materials.
- Face protection (goggles, mask, face shield, or other splatter guard) must be used for all procedures when such procedures could produce splashes or sprays of biological materials.



- Additional PPE may be required for high consequence agents or for procedures that pose increased risk of infection; this information should be provided in the BSP or in additional SOPs.

**General safety procedures:**

- All persons entering the laboratory must be advised of potential hazards.
- Access to the laboratory must be limited to staff, or other persons with permission of the Principal Investigator, when work with biological materials is being conducted.
- Laboratory staff will treat biological materials using Universal Precautions, AS IF potential infectious.
- The laboratory must have a sink for hand washing and adequate supplies must be available (i.e. soap and paper towels).
- The laboratory must have an eyewash and safety shower.
- The eyewash must be flushed at least monthly by research personnel.
- The area around the safety shower and eyewash must be kept clear of obstructions.
- Laboratory doors must be locked when unattended.
- Laboratory furniture and furnishing must be non-porous to allow for disinfection – carpeting, cloth chairs are not permitted.
- Spaces between benches, cabinets, and equipment must be kept accessible for cleaning.
- Absorbent material such as cardboard boxes (other than biohazard boxes) must not be placed on the floor
- Laboratory staff will not eat, drink, smoke, handle contact lenses, chew gum, or apply cosmetics in laboratory.
- Food or drink for human consumption or utensils or cups must be stored outside laboratory work area in refrigerators designated for that purpose only.
- Contaminated gloves must be removed immediately and placed in the biohazard waste container for disposal.
- Under NO CIRCUMSTANCES will gloves be reused.
- Laboratory staff must wash hands after handling biological materials, after removing gloves, and before leaving the laboratory.
- Protective clothing must be removed and left in laboratory before going to non-laboratory areas (cafeteria, library, administrative areas).
- Protective clothing must be either disposed of in laboratory or laundered by institution. (NEVER taken home!)



- Only mechanical pipetting devices must be used in the laboratory (no mouth pipetting).
- All procedures must be performed in a manner that minimizes creation of splashes or aerosols.

**Biosafety cabinets (BSCs):**

- A Biosafety Cabinet must be used for all procedures with potential for creating infectious aerosols or splashes, or whenever handling high concentrations of potentially infectious materials.
- Refer to the BSP or agent/procedure specific SOPs to determine when use of a BSC is required.
- BSCs must have a current (annual) certification.
- BSCs must not be used until it is recertified after repair or relocation.

**Centrifugation:**

- Centrifuges used for potentially infectious agents (human specimens or cell lines, viral vectors, bacterial cultures) must have sealed rotor heads or centrifuge safety caps
- Safety caps must be opened only in a BSC.
- If a vial breaks during centrifugation, do not open the centrifuge; call the Biological Safety Office (706-721-2663) for assistance.

**Decontamination and waste handling:**

- Surfaces
  - Laboratory equipment and surfaces must be decontaminated on a routine basis, after work with infectious materials is finished, and especially after overt spills or splashes of viable material.
  - Equipment must be decontaminated before removal from the laboratory (for repair maintenance or other purposes).
  - See above for appropriate disinfectant, concentration, and contact time (note: stainless surfaces exposed to bleach will corrode if not rinsed).
- Liquids
  - All infectious liquids must be decontaminated or disinfected prior to being poured into drain.
  - Vacuum lines should be protected from contamination by liquid waste via HEPA filter or two flask system.
  - Vacuum flasks should be emptied and cleaned at least once per week.
  - Add concentrated bleach to a final concentration of 10% bleach – treat for 30 minutes, pour into drain.
- Solids



- All non-liquid contaminated cultures, stocks, plastics and other biologically contaminated waste (i.e. bench pads, gloves, paper towels) must be placed in biohazard containers.
- Solid waste that is not contaminated with biological material (packaging, paper, paper towels from handwashing) should be placed in a non-hazardous waste container (regular trash can).
- Do not overfill biohazard boxes – Environmental Services will remove when they are 2/3 full.
- If waste containers are close to full and have not been removed, call 1-2434 to request new containers.
- Sharps
  - Reusable sharps should be stored in hard walled containers when not in use.
  - Place disposable sharps in an approved sharps container immediately after use.
  - Do not overfill sharps – Environmental Services will remove when they are 2/3 full.
  - If waste containers are close to full and have not been removed, call 1-2434 to request new containers.

**Biological materials storage procedures:**

- Refrigerators and freezers where biological materials are stored will only be accessible to authorized personnel.
- Locations where biological materials are stored will be marked with biohazard stickers.

**Animal waste:**

- Soiled cages/bedding and animal carcasses/tissues must be returned to the appropriate animal facility of origin for disposal (cages/bedding or carcasses/tissues should not be placed in laboratory waste containers).
- Animal carcasses may be stored temporarily in a plastic bag in a laboratory freezer; temporary storage must be emptied regularly.

**Transport of specimens:**

- This SOP is only applicable for transport of samples from one location to another without leaving the campus. Shipping or transport of biological materials to or from an off-campus location (or between campuses, i.e. from Summerville to the Health Sciences Campus) requires specific training – contact the Biological Safety Office for more information.
- Samples must be placed in a leak proof, puncture proof outer container for transport (i.e. a Rubbermaid type container)
- Outer container must be labeled with contact information and a biohazard sticker.



- Decontaminate outer container before removing from the laboratory.
- If a biological spill occurs during transport, contact the Biological Safety Office (706-721-2663) for assistance.

**Biological spills/accidents/exposures:**

- Spills and laboratory accidents that result in exposure to biological materials must be immediately reported to the Principal Investigator and the Biological Safety Office.
- All spills, injuries or exposures involving recombinant or synthetic nucleic acids must be immediately reported to the Principal Investigator and the Biological Safety Office.
- Please consult Augusta University's Emergency Response flipchart and the Biological Safety Office webpage for guidance documents that are specific to spill clean-up, accidents and injuries: <http://www.augusta.edu/services/ehs/biosafe/>.