

Western Carolina University
Standard Operating Procedure for the Safe Handling of Animals
A-BSL2 Containment

Section 1. Contact Information

Procedure Author:

Date of SOP Creation/Revision:

Name of Responsible Person (*PI, Supervisor, or Autonomous Researcher*):

Location of Procedure (*Building and room*)

Type of Animal(s):

Infectious Biological Agent(s):

Section 2: Researcher's Procedures in the ABSL2 Animal Facility

Provide a brief description of the work. Describe procedures done within the animal facility and engineering controls used such as biological safety cabinet (BSC), etc. Example: Animals will be dosed intravenously with the biohazardous agent (agent name) and all work will be done within a Class II BSC.

List any references used for the procedure design (research publications, etc.):

Section 3: Applicable Regulatory Statutes/Guidelines

[OSHA Bloodborne Pathogens Standard](#)

[CDC/NIH's Biosafety in the Microbiological and Biomedical Laboratories](#)

[WCU Biological Safety Manual](#)

List any additional regulations/guidelines referenced:

Required Procedures for Work in ABSL2 Animal Facilities

The researcher is responsible for:

1. Communicating the start date of the study and conveying this SOP to the IACUC and the Office of Safety and Risk Management. **This communication must occur at least five (5) days prior to initiation of the work.**
2. Initiating the work only after obtaining confirmation that your notification has been received.
3. **Placing the proper signs** on the animal room door and cages prior to the initiation of the study. Remove the signs when the study is complete.
4. **Cage Cards and Door Signs:** As soon as the animals have been dosed with the biohazardous agent, cages must be marked with the biohazard cards **and** the attached sign must be posted on the outside of the animal room door by research staff. This sign will be removed by research staff once the infected animals and biohazardous agents are no longer in the animal room.

Section 4: Risk Assessment

Hazard Identification and Risk of Exposure to the Hazards: Describe the risk of the agents being handled in the laboratory or potential zoonosis carried by the animals. If applicable, describe the signs and symptoms of illness and disease. State if a spill would be a respiration hazard, or if immunization is needed, etc.

Routes of Transmission:

- Exposure routes/risks of concern: Describe sharps and fragile glass items used, potentials for aerosolization, etc.

 - Off target effects (insertional mutagenesis, etc.) from exposure to the biohazardous and/or recombinant material:
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Section 5: Risk Reduction

Medical Considerations: Describe any necessary medical screening and surveillance, as well as any recommended vaccinations. Personnel may be offered vaccines (HBV) and counseling depending on the organism(s) being handled in the lab.

Precautions: All laboratory work shall fully comply with biosafety level 2 (BSL2) containment as described in the current edition of the CDC/NIH's Biosafety in the Microbiological and Biomedical Laboratories

Door Signage & Equipment Labeling:

- Posting of signs is the research staff's responsibility.
- Signs will be posted at all times when hazardous material is present.
- Signs will be removed by research staff when hazardous material is no longer present.

Access to laboratory is restricted: Describe restrictions in place (keys, electronic access, etc.).

Personal Protective Equipment (PPE): PPE will be donned when entering the work area and removed before leaving. Always wash hands after removing gloves. Inspect PPE before use. Replace damaged PPE. Remove and replace PPE after gross contamination. Do not take PPE home with you to be laundered.

Required PPE:

- appropriate street clothing (long pants, close-toed shoes)
- gloves; indicate type:
- safety goggles safety glasses face shield
- lab coat
- other:

Methods to minimize personnel exposure: Describe alternatives to sharps/safer devices that will be used. Explain the use of conveniently located sharps containers, absorbent materials to contain spills, etc.

Methods to prevent the release of infectious agents/protect workers from aerosols, splashes, & splatter:

Describe equipment/engineering controls such as Biological Safety Cabinets (BSC) and covered centrifuge cups, etc.

Specimen transport and removal of material(s) from the laboratory: Describe materials and methods used for transport (carts, leak proof containers, etc.).

Standard microbiological methods: Hands must be washed (thoroughly for 20 seconds with mild soap) as soon as possible after coming in contact with potentially infectious materials. Hands should also be washed after glove removal, and before exiting the laboratory. To minimize potential exposure eating, drinking, smoking, applying cosmetics, and handling contact lenses is prohibited in laboratory areas. Food and drink may not be stored in refrigerators in which laboratory materials are also stored. For complete microbiological lab methods, refer to WCU's Biological Safety Guide.

Cleaning & Disinfection: Work benches will be maintained as organized and clutter-free as practical. Benches must be wiped down with a 10% bleach solution or other approved disinfectant at least once a day and immediately after a spill of potentially infection materials.
Other approved disinfectant to use:

Waste Generation and Disposal: Identify types of waste generated (liquid, dry, sharps, animals, etc.) and procedures for handling/disposing of waste, including contaminated and non-contaminated wastes and the use of sharps containers, red biohazard bags, autoclave bags, etc.

Spill and Accident Response Procedures:

If the spill is a respiratory hazard, mark the area as "SPILL, DO NOT ENTER" and evacuate 30 minutes to allow aerosols to settle. After 30 minutes (or if the spill is not a respiratory hazard) proceed with the following:

- Be especially cautious of sharps. Always remove sharps with mechanical means (pieces of cardboard, tongs, etc.) and do not pick up with your hands.

Blood or Body Fluids

- Don all appropriate PPE. Disposable gloves are required, shoe covers and face masks may be necessary.
- Absorb fluids with disposable towels. Place materials in a red biohazard bag.
- Clean area of all visible fluids with soap and water.
- Decontaminate area with a 10% bleach solution or Tuberculocidal disinfectant.

BSL 2 Microorganism

- Alert people in immediate area of the spill and request that they leave the area.
- Don all appropriate PPE. Disposable gloves are required, shoe covers and face masks may be necessary.
- Cover spill with disposable absorbent (towels or inert loose material).
- Carefully pour a 10% bleach solution around the edges of the spill and then into the center of the spill. Do not splash. Leave for 20 minutes.
- Using disposable paper towels, wipe up the spill, working from the outside towards the center. Dispose of materials in a red biohazard bag.
- Clean spill area with fresh towels soaked in an approved disinfectant or 10% bleach solution and allow to air dry. Also place these materials in a red biohazard bag.

Describe any additional spill requirements for this procedure:

Standard ABSL2 Cage Change Procedures

- Cage changes will be confined to a ventilated cage changing station or biological safety cabinet.
- Cages will be changed no sooner than 48 hours after the animals are exposed to the biohazardous agent.
- Cages (with bedding) will be double bagged in two orange biohazard bags or two autoclave bags and taped shut. The bags are then sprayed down with an *approved disinfectant* that is effective against the agent in use and transported to the biowaste holding area or autoclaved and disposed of in the landfill.

Section 6: Personnel Exposure to Biohazards

Accidental exposures, such as splash to the face or a bite/scratch injury shall be reported immediately to University Health Services. The medical representative will help categorize the risk of developing occupationally-acquired infection and provide advice on an appropriate post-exposure treatment.

Section 7: Training Requirements

Workers conducting research under this procedure must comply with the following training requirements:

- Complete online General Laboratory Safety Training, Biosafety Training, Bloodborne Pathogen Training, and Animal Risk Training
- All personnel shall read and fully adhere to this SOP.
- P.I. will keep documentation of personnel reading and understanding of this lab-specific SOP using a signature page

List any additional training requirements:

Enter any additional comments:

