

CONTENTS

- 1.0 PURPOSE
- 2.0 SCOPE
- 3.0 ROLES AND RESPONSIBILITIES
- 4.0 DEFINITIONS
- 5.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)
- 6.0 TOOLS/EQUIPMENT/INSTRUMENTS
- 7.0 SAFETY PRECAUTIONS
- 8.0 GENERAL CONSIDERATIONS
- 9.0 PROCEDURE
- 10.0 EMERGENCY
- 11.0 SPILL AND ACCIDENT PROCEDURES
- 12.0 KEY REFERENCE
- 13.0 SOP REVIEW/REVISION

1.0 PURPOSE

This Standard Operating Procedure (SOP) specifies the institutional policies and safety procedures to be followed when transporting rodents from animal facility to laboratory that have been exposed to biological hazardous substances.

2.0 SCOPE

The SOP applies to all USC DAR staff, and research personnel working with animals (animal researchers) who are responsible for transporting rodents from animal facility to laboratories.

3.0 ROLES AND RESPONSIBILITIES**Department of Animal Resources (DAR)**

DAR supervisors must ensure that animal researchers maintain the minimum requirements for the biohazard mice transportation.

Environmental Health and Safety (EH&S)

EH&S office will ensure that animal researchers adhere to the safety requirements and follow the appropriate SOPs when transporting animals administered with biohazard agents (biohazardous animals).

Principal Investigators (PI)

PIs will ensure that research lab managers and animal researchers are adequately trained in transporting biohazard rodents.

Researchers

Researchers will follow appropriate SOPs and safe handling practices when transporting biohazardous animals.

4.0 DEFINITIONS

Biohazard Mouse

The laboratory animal that is administered with a Biological Hazardous Substance

5.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

- Disposable lab gown
- Head cover
- Shoe covers
- Surgical Mask
- Safety Glasses (if animals handled outside of a biosafety cabinet (BSC) or ventilated cage-changing station)
- Gloves

6.0 TOOLS/EQUIPMENT/INSTRUMENTS

- Certified Biosafety Cabinet (BSC) or Changing Station
- Clean Transport Cages
- Clean bedding
- Forceps
- Biohazard Labels
- Disinfectants

7.0 SAFETY PRECAUTIONS

- Animals that have been administered with a biological hazardous substance may excrete the infectious metabolites, particularly during the first 72 hours after dosing.
- Before administering chemical hazards to lab animals, PI or lab manager must confirm that the individual has read the relevant SOPs and is proficient in performing the administration procedures.
- When an animal is injected with biological hazards, there is a danger of self-inoculation.
- Do not reuse needles.
- **Do not recap** needles
- Sharps container must be used to dispose of used needles and syringes.
- Unbreakable (e.g., plastic) containers must be used to carry chemical materials.

8.0 GENERAL CONSIDERATIONS

- Biosafety Cabinets must be certified annually by an approved vendor.
- Only keep required equipment and materials inside the BSC.
- The BSC blower must be turned on and the sash must be placed to the proper height for protection while working in the cabinet.
- BSC surface area should be divided into clean, working, and dirty zones. Movement inside the BSC should be unilateral (from clean to working to dirty zone) to avoid cross-contamination
- Immediately notify the lab manager if any malfunctions are suspected.
- Avoid using a Bunsen burner or other **flame producing devices** inside the BSC. Bunsen burners disrupt the laminar flow inside BSC.

9.0 PROCEDURE

- Turn “ON” the BSC or change station, disinfect it using Bleach-Rite and allow it to stabilize
 - refer to BSC Operation and Decontamination SOP.
- Prepare the necessary items.
 - Transport cages, biohazard bags, forceps, Bleach-Rite solution
 - Obtain feed and water bottle if needed.
- Transport one (1) cage from rack to the BSC or the change station
 - Check for sick and/or dead animals inside the cage.
 - Fill out a sick animal report if you find any sick animals. If the sick animal is suffering and in need of urgent care, the cage should be returned to the rack and the incident reported as soon as possible to DAR.
- Open the lid and use forceps to grab the animal and move the animals to the transport cage.
 - Forceps are used to pick up a mouse by its tail.
 - Be aware of potential escapees.
- Close the transport cage lid
 - Disinfect forceps and the working surface between mouse transfers from different cages.
- Spray the inside of the dirty cage with Bleach Rite and place it inside a biohazard bag that is inside the BSC.
- Place a maximum of 6 cages (stacks of 3s) inside the biohazard bag
- Close the biohazard bag inside the BSC and place it on the transport cart.
 - Continue changing cages and place them in a new biohazard bag
- Replace PPE before leaving the room.
- Transport the dirty cages in biohazard bags to the washroom and place them in the autoclave transport rack.
- Remove PPE and place it in the biohazardous waste container before leaving the facility.

10.0 EMERGENCY

For general emergencies, follow the steps below.

1. Call DPS immediately. UPC 213.742.4321, HSC 323.442.1000
2. Call EH&S. Dial 323.442.2200
3. Supply name; call back number; nature of the emergency and location.
4. Report the emergency to the supervisor, lab manager, or principal investigator.

Refer to EH&S’ “Emergency Notification” Fact Sheet

(http://adminopsnet.usc.edu/sites/default/files/all_departments/EHS/ehs%20fact%20sheet-emergency%20notification-1.pdf) for details.

11.0 SPILL AND ACCIDENT PROCEDURES**In case of spill inside of biosafety cabinet:**

- Immediately notify others around you.
- Contaminated personal protective equipment (PPE), such as gloves, lab coat, and safety glasses, should be removed and disposed of as biohazardous waste or set aside for disinfection.
- Don/replace appropriate PPE.
- Use forceps to remove any broken glass or other sharp items; sharps should be placed into biohazard sharps containers.
- Cover the spill with paper towels or other absorbent materials.
- Apply 10% bleach directly around and onto the paper towels covering the spill.
- Allow 15-minute contact time before cleaning, starting at the perimeter and working inwards towards the center
- Dispose of materials into biohazard bins
- Disinfect all surfaces of the biosafety cabinet with freshly prepared 10% bleach with a 15 minute contact time, followed by a wipe down with 70% ethanol to reduce corrosion
- Allow biosafety cabinet to run for at least 10 minutes before resuming work or turning off
- For large spills, you may contact the EH&S office for assistance at (323)442-2200
- Any chemical decontamination method (formaldehyde, hydrogen peroxide, and others) requires the involvement of personnel who have been trained in this procedure. The Biosafety Officer shall coordinate the process with the authorized vendors. Decontamination using chemical gases might take 12-15 hours in some cases.

12.0 KEY REFERENCE

The Guide for the Care and Use of the Laboratory Animals 8th edition, NRC 2011 California Code of Regulations

13.0 SOP REVIEW/REVISION

Date prepared: 06-27-2022 By: *EH&S Biosafety Team*

Date revised: 07-18-2022 By: *DAR Supervisors*