

**STANDARD OPERATING PROCEDURES**  
**DIVISION OF COMPARATIVE MEDICINE**  
**UNIVERSITY OF SOUTH FLORIDA**

SOP#: 415.5

Date Issued: 4/00

Date Revised: 8/17

Page 1 of 3

---

<b>TITLE:</b>	<b>Hazardous Test Substance Rodent Husbandry</b>
<b>SCOPE:</b>	All Authorized Personnel
<b>RESPONSIBILITY:</b>	Facility Manager and Technical Staff
<b>PURPOSE:</b>	To Outline the Proper Procedures for Safely Conducting Husbandry of Rodents Exposed to Hazardous Test Substances

---

**I. PURPOSE**

1. To outline the proper procedures for safely conducting husbandry of rodents exposed to hazardous test substances.
2. To reduce the risk of exposure of research and animal care staff to hazardous test substances within the animal facility.
3. To reduce the risk of secondary exposure of research and animal care staff to hazardous chemicals, therapeutics, or novel test substances metabolized or excreted unchanged from administered animals for which rates of metabolism, excretion, or potential for secondary toxicity may or may not be established.

**II. RESPONSIBILITY**

1. The Facility Manager ensures that:
  - a. All technical and animal care staff is adequately trained to perform the husbandry practices described.
  - b. Implementation of the procedures described.
  - c. Animal housing rooms are clearly labeled with the hazardous agent present and specific safety practices implemented.
  - d. Appropriate personal protective equipment (PPE) is available.
  - e. Test substance SDSs, when available, is accessible.
  - f. Safety practices have been communicated to the relevant personnel.
2. It is the responsibility of the animal care staff to:
  - a. Read, understand, and follow the procedures described.
  - b. Review study protocol, room signage, and relevant SDSs prior to implementing the procedures described.

**III. PROCEDURES**

1. Before entering room, **assemble all supplies** necessary to complete task.

2. Access to rooms housing animals that have been administered hazardous test substances is **limited to essential personnel**. **Doors are kept closed** when experimental animals are present.
3. **Before entering the room, review the hazard warning signage** posted on the door for required (PPE) and specific practices implemented for the protocol/agent.
4. **Don required PPE.** A disposable gown, appropriate chemical resistant gloves (i.e., refer to SDS when available), and shoe covers must be worn when working with hazardous test substances, opening the cage of, or handling animals that have been administered the agent. Specific glove recommendations are as follows:
  - a. **DMSO – Incidental/minor contact.** Use nitrile gloves, 2 mm or thicker. Double glove if incidental contact is expected to be frequent (more than once or twice per use). Change glove or outer glove after known exposure or every 30 minutes.
  - b. **DMSO – Major contact or immersion,** use butyl rubber gloves.
  - c. **Formalin** - Use nitrile gloves.
5. As agents may have the potential to produce hazardous fumes, dust, or aerosols, cage changing is required to be performed in a manner that minimizes risk of exposure to aerosols, at least within an ISO class 4 HEPA-filtered ventilated cage changing station, or within a class II Type A2 biosafety cabinet, or within a chemical fume hood connected to building exhaust, depending on the agent and protocol. Cage changing is performed while wearing PPE listed above in item III.4 or required by the protocol, in addition, Tyvek® sleeves, ensuring cuffs overlap, are required.
6. **Animals administered hazardous test substances should be housed in individually ventilated caging.** Intervals of cage change-outs will be determined based on the associated risk of the agent and animal housing density. As a rule of thumb:
  - a. Cage changing is performed twice a week for all static microisolator shoebox caging when housing rodents at standard densities.
  - b. Cage changing for single housed mice may be performed at intervals longer than twice weekly, but should at least be performed once a week.
  - c. Cage changing for mice housed in individually ventilated caging may be performed at intervals longer than once a week, but should at least be performed every 2 weeks.
  - d. Any cage excessively soiled will be changed as often as necessary to maintain an acceptable level of sanitation.
  - e. Cage changing will be noted on the **Room Status Sheet**.
7. Rodent **caging is changed-out one cage at a time** and husbandry practices are planned so that the microisolator filter top is removed from the shoe-box cage for the least possible amount of time and frequency.

8. All procedures are carefully performed to minimize the risk of personnel exposures. The mode of hazardous test substance administration to animals presents the greatest potential risk of hazardous agent exposure of personnel, either via the generation of aerosols, the inadvertent introduction of agent by needle stick, or the hazardous agent contamination of broken skin, or during surgical procedures, or during the collection of tissues.
9. As potentially hazardous test substance administrations, procedures, surgeries, and tissue derivations have the potential to produce hazardous fumes, dust, or aerosols, these must be performed in either an ISO class 4 HEPA-filtered ventilated cage changing station, or a class II Type A2 biosafety cabinet or chemical fume hood, as appropriate for the procedure, while wearing PPE listed above in items III.4 & 5, or required by the protocol, in addition, Tyvek® sleeves, ensuring cuffs overlap are required.
10. Opening microisolators or handling animals that have been administered hazardous test substances that have the potential to produce hazardous fumes, dust, or aerosols must occur behind the glass shield of the ISO class 4 HEPA-filtered ventilated cage changing station, biosafety cabinet, or fume hood.
11. Work surfaces are cleaned and decontaminated before and after use.
12. All wastes from the animal room will be disposed of as hazardous waste when directed by Environmental Health and Safety.
13. In addition to PPE stipulated in SOP 1008, when working in cagewash with cages that housed animals administered hazardous test substance, an N95 respirator is recommended.

**Approved:**

**Date:**