

VA SOP For Mouse and Rat Husbandry

Routine Mouse Husbandry Procedures

1. *General Animal Room Procedures:* See “Cage Exchange” SOP.
2. *Temperature:* Room temperature must be maintained at 68-79 degrees F (20-26 degrees C). Ideally, temperatures should be 72 degrees, plus or minus 2 degrees. Breeding rooms and rooms housing nude mice do well at least 74 degrees F. See “Temperature/humidity Reporting” SOP.
3. *Relative Humidity:* Room humidity must be maintained at 30-70%. See “Temperature/humidity Reporting” SOP.
4. *Lighting:* Automatic light timer controls should be set for 12L:12D light cycle.
5. *Personal Protective Equipment:* Scrubs or lab coat must be worn when entering any animal room. Gloves are required when handling animals. Gloves should be changed between different PI’s animals and must be changed if gloves become visibly soiled or torn. If the room is posted BSL2, follow instructions posted on the door for special PPE required. NOTE: Any employee identified during initial hiring or during annual review of their Animal Handler Medical Questionnaire by Employee Health as having animal allergies must be enrolled in the hospital’s Respiratory Protection Program and must either wear a HEPA filtered PAPR or be fit tested for an N-95 respirator.
6. *Caging:*
 - a. Mice are routinely housed in polycarbonate cages on contact bedding with microisolator filter tops. They must not be housed in wire bottom cages unless approved by the IACUC.
 - b. The maximum # of mice per cage is 5 adults or 2 adults with a litter.
7. Mice should be group housed whenever possible. This may not be possible due to experimental, behavioral, or health reasons. Single-housed mice should receive enrichment devices unless otherwise justified by the PI and approved by the IACUC or by veterinary exception. Enrichment may include Nestlets or Krinkle paper; mouse huts; polyethylene, polypropylene, polycarbonate, or poly-vinyl chloride tubes or pipes, or other forms of cage enrichment that are approved by the IACUC.
8. *Weaning:* Mice will be routinely weaned at 21-24 days and segregated by sex into separate cages. Weaning beyond 24 days may be necessary due to slow growth of some strains, but it must be approved by the IACUC. In no case may weaning be delayed beyond 28 days.
9. *Feeding:*
 - a. Adult mice should be fed standard rodent chow (*i.e.*, Purina Laboratory Rodent Diet #5001) *ad libitum*, unless indicated otherwise. NOTE: Commercial feed should be used within 6 months of manufacture date. Sealed autoclaved feed can be stored for 6 months. Once the seal is broken, it must be used within 2 weeks
 - b. Mouse breeding colonies should routinely be fed a commercial mouse breeder diet (*i.e.*, Purina Mouse Diet #5015 or Harlan Teklad LM-485 mouse/rat Sterilizabile Diet) *ad libitum*, unless indicated otherwise.
 - c. It is permissible to place a limited amount of supplemental food on the cage floor in cases where animals need special food or may have difficulty reaching the wire bar (e.g. small weanling mice)
10. *Watering:* Acidified water (2.8-3.2 pH) should be used in water bottles, unless

otherwise indicated. Water levels in bottles should be checked daily, and a new bottle supplied if needed. NOTE: Immune-compromised animals require sterile water. Use water from the tap to fill bottles for sterilizing.

11. *Cleaning/Sanitizing Schedule:*

- a. Static solid bottom cages with contact bedding shall be changed at least once a week. Spot changes of individual cages shall be done whenever wet bedding or excessive ammonia/odor levels are detected. As a general rule of thumb, cages with 1-2 mice get changed once a week, and cages with 3 or more mice get changed an additional time or two as needed.
- b. Wire bottom cages shall be changed at least once every two weeks.
- c. Wire bar lids shall be changed every two weeks.

- d. Water bottles and sipper tubes are replaced at least once a week. Bottles are not to be refilled. Replace empty bottle with a clean one.
- e. Microisolator covers should be changed at least once every two weeks. Filters on the covers should be changed as needed.
- f. Racks shall be changed at least once a month.

Routine Rat Husbandry Procedures

1. *General Animal Room Procedures:* See "Cage Exchange" SOP.
2. *Temperature:* Room temperature must be maintained at 68-79 degrees F (20-26 degrees C.) Ideally, temperatures should be 72 degrees, plus or minus 2 degrees. See "Temperature/humidity Reporting" SOP.
3. *Relative Humidity:* Room humidity should be maintained at 30-70%. See "Temperature/humidity Reporting" SOP.
4. *Lighting:* Automatic light timer controls should be set for 12L:12D light cycle.
5. *Personal Protective Equipment:* Scrubs or lab coat should be worn when entering animal room. Gloves are required when handling animals. Gloves should be changed between different PI's animals and should be changed if gloves become visibly soiled or torn. If the room is posted BSL2, follow instructions posted on the door for special PPE required. NOTE: Any employee identified during initial hiring or during annual review of their Animal Handler Medical Questionnaire by Employee Health as having animal allergies must be enrolled in the hospital's Respiratory Protection Program and must either wear a HEPA filtered PAPR or be fit tested for an N-95 respirator.
6. *Caging:*
 - a. Rats shall be routinely housed in polycarbonate cages on contact bedding with microisolator filter tops. They shall not be housed in wire bottom cages unless approved by the IACUC
 - b. The maximum # of rats per cage is 2 adults.
 - c. Rats should be group housed whenever possible. This may not be possible due to experimental, behavioral, or health reasons. Single-housed rats should receive enrichment devices unless otherwise justified by the PI and approved by the IACUC or by veterinary exception. Enrichment may include

; Nylabones; polyethylene, polypropylene, polycarbonate, or poly-vinyl chloride tubes or pipes, or other forms of cage enrichment that are approved by the IACUC.

7. *Feeding:* Adult rats should be fed standard rodent chow (*i.e.*, Purina Laboratory Rodent Diet #5001) *ad libitum*, unless indicated otherwise. NOTE: Commercial feed should be used within 6 months of manufacture date. Sealed autoclaved feed can be stored for 6 months. Once the seal is broken, it must be used within 2 weeks.
8. *Watering:* Acidified water (2.8-3.2 pH) should be used in water bottles, unless otherwise indicated. Water levels in bottles should be checked daily, and a new bottle supplied if needed. NOTE: Immune-compromised animals require sterile water. Use water from the tap to fill bottles for sterilizing.
9. *Cleaning/Sanitizing Schedule:*
 - a. Static solid bottom cages with contact bedding shall be changed at least once a week. Spot changes of individual cages shall be done whenever wet bedding or excessive ammonia/odor levels are detected. As a general rule of thumb, cages with 1 rat get changed once a week, cages with 2 rats get changed an additional time or two as needed.
 - b. Wire bottom cages shall be changed at least once every two weeks.
 - c. Wire bar lids shall be changed every two weeks.
 - d. Water bottles and sipper tubes are replaced at least once a week. Bottles are not to be refilled. Replace empty bottle with a clean one.
 - e. Microisolator covers should be changed at least once every two weeks. Filters on the covers should be changed as needed.
 - f. Racks shall be changed at least once a month.

Enrichment options M.2

The Guide states that when social animals must be housed alone, other forms of enrichment should be provided to compensate for the absence of other animals. Please consider the following enrichment items.

Nestlets or Shred-a-Bed bedding (provided by ARF)

mouse huts (provided by investigator)

Nylabones (provided by investigator)

polyethylene, polypropylene, polycarbonate, or poly-vinyl chloride tubes or pipes (provided by investigator)

inner cage barriers (provided by investigator)

Effective date: This SOP was written for investigators and staff to reference during the writing of their ACORPs (version 4). The SOP was reviewed and approved by the IACUC on 11/06/13.