



## Animal Facility SOP 40.2

### Working with Microisolator Rodent Cages Using Aseptic Techniques

<b>Date Adopted</b>	2/18/2021
<b>Date Last Updated</b>	2/18/2021
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**Purpose:** To outline the proper procedures for working with microisolator rodent cages using aseptic techniques

**Personnel Responsibilities:** Applies to all personnel working with rodents housed in microisolator cages. Facility Director: Will review all deviations in this process and implement corrective action or SOP revision accordingly.

#### **Materials Required:**

Shoe covers

Uniform or disposable lab coat/ isolation gown

Gloves

32-ounce spray bottles (Pre-Empt)

If needed, Forceps (2) and containers of chlorine dioxide to store forceps between uses.

Biosafety Cabinet or Portable Changing Station (where available)

Clean Microisolator Cage complete with bedding and bottle, enrichment materials

#### **General Principles:**

The Purpose of a microisolator caging is to keep the animals and facility free of pathogens.

1. Where possible, always open a microisolator cage under the hood.
2. Keep the work area uncluttered; but, have everything needed for the procedures ready. If using a hood they should be placed in the hood so that hands and arms remain under the hood and sterile.
3. Keep clean materials distinctly separated from dirty materials. Have a clean and dirty side when changing cages under the hood.
4. Always finish working with clean cages before disposing of dirty changed cages.
5. Never set clean cages on the floor.
6. Never touch anything outside of the cage without first decontaminating gloved hands with the disinfectant.

7. Gloves should remain wet with disinfectant while working with mice.

**Procedure:**

**I. Personal Protective Equipment**

8. In addition to the required facility PPE, put on disposable gloves and a mask.
9. Wearing a hair bonnet is optional.

**II. Disinfectant Preparation and Expiration**

1. If the disinfectant bottle is empty, is out of date, or has no date, you must make up a fresh bottle. Always empty all of the remaining contents of the spray bottle and rinse with water before putting in a new disinfectant.
2. This solution is good for a month. Use a piece of tape to write the new date of when the mixture was made and place it on the bottle.

**III. The Biosafety Cabinet**

1. When first turned on the unit must cycle before use, if possible for at least 5 minutes.
2. Spray the inside of the cabinet with disinfectant and remove excess liquid with paper towels prior to opening a cage.
3. The disinfectant solution needs to sit for 10 minutes for maximum efficacy before wiping down the hood
4. Once all surfaces have been wiped down, immediately re-spray the working surface with disinfectant, before beginning work
5. All work should be performed using minimal movements to avoid disturbing the air currents.
6. When working in a biological safety cabinet, do not block air vents with equipment of any kind.

**IV. Working on the Countertop**

1. Spraying the countertop. The disinfectant solution needs to sit for 10 minutes for maximum efficacy.
2. Wipe down the countertop then respray before starting work.

## **V. Handling the Microisolator Cage**

- 1. The supplies needed are as follows: gloves, disinfectant spray, paper towels and water valve.**
2. Once the cage is placed inside the hood or on the countertop, spray gloved hands with disinfectant.
3. Spray the outside of the cage, remembering the inside of the cages is clean, but the outside is dirty.
4. Open the cage by removing the plastic top. Grasp the outer edges of the lid with one hand spread over the top of the cage, making sure that the inside of the top is not touched, and place it upside down on the work surface.
5. **SPRAY HANDS AGAIN BEFORE TOUCHING ANYTHING INSIDE THE CAGE.**
6. You must work with one cage at a time and disinfect the work surface between each cage.

## **VI. Working with mice**

1. Turn the water bottle spout end up and place it in the wire-bar lid.
2. Turn the wire-bar lid sideways across the cage or place it in the inverted plastic cage top. Never place it on the working surface!
3. Remove the animals from the cage by either using sterile forceps (mice only) or by hand. Gently grasp the mouse by the scruff of the neck (forceps) or at one third from the base of the tail or closer (by hand).
4. If you are working with forceps, you will need two forceps, a reservoir cup for each and a stand to hold the cups. While you are working with one pair, the other pair is being disinfected in the opposing reservoir. Alternate pairs of forceps between cages. Do not leave forceps in disinfectant when not using them because they will deteriorate or corrode.

## **VII. Working with rats**

1. Remove the filter top and wire bar as above for mice.
2. Transfer animals by lifting gently by the base of the tail. Do not keep the animal suspended for any length of time. Transfer them to the clean cage as smoothly and quickly as possible.
3. Make sure to transfer the cage card and holder to the new cage.
4. Always wipe the water valve with disinfectant and check to make sure water is being released from the water valve. Replace any water bottles

with defective water valves and discard that bottle top. Replace cage to the same location from which it came.

5. Once the cage is back on the rack, make sure the red handle or clasp is in the proper locking position across the cage or that the cage is securely docked in its locking mechanism and the red button on the latch is not visible.

**I acknowledge that I have read and understand the Morgan State University Standard Operating Procedure “Procedures for Working with Microisolator Rodent Cages Using Aseptic Techniques” and I will follow this procedure.**

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**Name (Print)**

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**Date**

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**Signature**