

Animal Cage Washing and Room Cleaning Guidelines For Personal Protective Equipment (PPE) and Biosafety Requirements

Note: These guidelines are designed to give individual areas a foundation to build upon. They are not intended to cover every situation. The guidelines should be expanded to define what is expected in individual operations. The guidelines are to help assure compliance with Occupational Safety and Health Administration requirements for PPE (29CFR1910.132) and the University's biosafety protocols.

1. Personal Protective Equipment

- i. The area supervisor will do a hazard assessment of their workplace to determine what PPE is needed to protect the worker. Type of work, chemicals, biological and physical agents used must all be considered when doing the PPE assessment.
- ii. The hazard assessment must be made by a knowledgeable supervisor. EHS can assist in the hazard assessment (5-6858)
- iii. PPE must protect against the hazard, fit the employee, be maintained and replaced if damaged
- iv. During cage washing and room cleaning the following are recommended -
 - when using disinfectants and disinfecting rooms:
 - a. splash proof eye protection
 - b. water proof apron
 - c. rubber gloves
 - d. water proof foot covers or foot wear
 - when cleaning cages:
 - a. splash proof eye protection
 - b. water proof apron
 - c. rubber gloves
 - d. water proof foot wear if the floor becomes wet.
- v. Under special circumstances the use of respiratory protection may be needed. For example, some studies may result in urine or feces being contaminated with a biological or chemical agent. The bedding may become aerosolized resulting in an inhalation hazard. Consult Industrial Hygiene at 5-6862 for specific respiratory protection requirements.

2. General Sanitation

- i. Personnel must wash their hands with an antibacterial soap when leaving the animal room.
- ii. Cleaning equipment such as brooms, dust pans, etc. must not be moved from one area to another until they have been disinfected.
- iii. The entire animal room must be sanitized when the room becomes vacant or more often if needed as determined by the Supervisor.

- iv. Dry Cleaning - Vacuum with a HEPA filtered exhaust can lower concentrations of airborne allergens that may get distributed throughout the animal facility.
- v. To avoid cross contamination, boots and gloves will be changed when moving from one area to another. When cleaning Biosafety Level 3 areas boots, gloves and smocks will be used in only one area.
- vi. Cages will be sanitized on a routine basis as specified by the P.I. or facility manager
- vii. Cages will be sanitized before animals are placed into them. Accessory equipment, such as racks, feeders, and watering devices, will be washed and sanitized (fill in time frame for your operation) to keep them clean and free of contaminants.
- viii. Solid bottom rodent caging and all necessary equipment will be washed and sanitized at least (fill in time frame for your operation - 1-3x/week recommended).
- ix. Animal rack systems will be washed and sanitized at least (fill in time frame for your operation - every two weeks suggested).
- x. Rabbit enclosures are to be sanitized at least (fill in time frame for your operation - every 2 weeks suggested).
- xi. Litter pans will be sanitized at least (fill in time frame for your operation - 3x/week suggested).
- xii. All food and water receptacles have to be sanitized at least 1x every 2 weeks
- xiii. Animal Pens
 - a. Solid waste will be removed from the pens daily
 - b. Pen will be washed daily and sanitized at least (fill in time frame for your operation)
 - c. Cage racks will be washed and sanitized at least (fill in time frame for your operation - every 2 weeks recommended).

3. Cage Washing

- i. Disinfection may be accomplished by rinsing at a temperature of 82.2 °C (180°F) or higher for a minimum of three minutes, or by using an acceptable disinfecting solution followed by deionized water or fresh water rinse so no chemical residue is left on the cage surface.
- ii. Whenever appropriate all caging will be washed and sanitized in mechanical cage washing devices. Use the wash and rinse cycles. Kennels and pens will be washed and sanitized by hand using portable pressure washers that dispense detergents and disinfecting chemicals followed by a clear water rinse.
- iii. When disinfection is accomplished by chemicals rather than rinse water temperature, the chemical will be left on the surface of the caging for the appropriate time period for disinfection to occur, then rinsed free.
- iv. Rabbits and some rodents produce urine with high concentrations of protein and mineral. Minerals and organic compounds in urine from these animals often adhere to cage surfaces and need treatment with acid solution before washing.

- 4. Ergonomics - Once a hazard is recognized - twisting, lifting, bending or carrying - employee education and engineering controls can be applied to reduce the potential for

those types of injuries. Training should be updated if new tools are used in an operation updated periodically to remind employees of proper work techniques. Contact EHSC_Ergonomics_Program@ncsu.edu for an ergonomic assessment and other ergonomic issues.