

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

SOP#: 1012.3

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**TITLE:** **Manual Cage Washing and Sanitation**  
**SCOPE:** All Animal Program Personnel  
**RESPONSIBILITY:** Veterinary Staff, Facility Manager, All Animal Personnel  
**PURPOSE:** To Outline Procedures for Hand Washing Caging and Equipment

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**I. PURPOSE**

1. To ensure the highest quality of health among animals used for research and teaching purposes, and to ensure the consistency and integrity of research data. The purpose of this SOP is to describe the procedures for hand washing caging and equipment.

**II. RESPONSIBILITY**

1. The Veterinarians oversee all aspects of animal health, and are assisted by all program staff.
2. The Facility Managers ensures implementation of all procedures.
3. Maintenance Support and Cage-wash Personnel ensure all cages, racks, feeders, watering devices, etc. are properly washed and sanitized on the appropriate schedule.

**III. GENERAL PROCEDURES**

1. The following procedures contribute to a high quality of animal health, and the consistency and integrity of research data.
2. Cleaning items by hand-washing relies on physical removal of gross dirt, debris, scale, and the use of an effective method of sanitation.
3. Hand-washing/sanitation procedures should be designed and implemented so that caging/equipment moves from dirty to clean areas with no overlap. Separate areas should be designated for bedding removal, scraping/pre-wash, wash, rinse, and sanitization procedures. Similarly, the cleanest items should be washed first and heavily soiled items should be washed last to reduce contamination of wash water.
4. Transport dirty caging/equipment to the cage-wash area. Feed and water is dumped prior to washing. Caging that contains soiled bedding/litter is removed/dumped into a receptacle in a manner so as to reduce the formation of aerosols. Soiled bedding that is not readily dumped may have to be scraped or rinsed from the caging. Extremely soiled caging may need to be pre-soaked to

remove all debris. Personnel performing procedures that produce dust or aerosols should wear an appropriate particulate mask.

5. Caging should be pre-rinsed to remove all visible particulate matter prior to washing to reduce contamination of wash water. Pre-rinsing can be performed with a water hose, warm water, detergent and or acid solution as needed.
6. Hand-washing of caging/equipment should be performed in water that is approximately 110<sup>o</sup> - 120<sup>o</sup>F (i.e., domestic hot water temperature). Wash water must contain adequate amounts of detergent as recommended by the manufacturer. Fresh wash water will need to be prepared as often as necessary to maintain desired temperature and when excessively contaminated. Detergents with strong scent additives should be avoided. Consider using unscented dishwashing soap, or Alka-Det HW<sup>®</sup> (Pharmaceutical Research Laboratories).
7. Hand washing should be performed using a sponge, scrub brush, bottle brush, or suitable material to physically remove all foreign material. All visible dirt, debris, and scale should be removed by the washing process. Items should be visually inspected to ensure items appear clean. If items do not appear clean they must be rewashed prior to use.
8. All detergent must be rinsed from washed items. Rinsing should take place using water that is approximately 110<sup>o</sup> - 120<sup>o</sup> F (i.e., domestic hot water temperature). When rinsing is performed by dipping, fresh rinse water will need to be prepared as often as necessary to maintain desired temperature and when it contains excessive amounts of detergent.
9. Sanitization of caging/equipment is achieved using appropriate chemical sanitizing agents (see item 14 for suggested agents). Sanitization should take place using water that is approximately 110<sup>o</sup> - 120<sup>o</sup> F (i.e., domestic hot water temperature). When sanitization is performed by dipping, fresh solution will need to be prepared as often as necessary to maintain desired temperature. Items too large to dip may be wiped down or sprayed with suitable sanitizing agent. Allow items to remain in contact with sanitizing agents for the indicated contact time. All items should be rinsed well after exposure to sanitizing agent.
10. All chemicals (e.g., detergents, acids, sanitizing agents) must be handled properly. **All chemicals must be properly stored, mixed, and used in accordance with the manufacturer's label directions.**
11. When choosing a suitable disinfectant/sanitizer (e.g., Oxivir, or Clidox-S) consider safety concerns for both personnel and animals, efficacy against specific microbial agents, required contact time, useful life of mixed solutions.
12. Chlorine (e.g., Clorox) is a readily available and inexpensive sanitizer/disinfectant that produces an excellent kill of bacteria and viruses. It is generally used as 10% solution for sanitization which can be made by diluting ½ oz. (1 tbls)/gal of water or can be used as a disinfectant by diluting 6 oz./ gal of water.

13. Certain sanitizing agents should be avoided on surfaces that may come into contact with animals (e.g., agents difficult to rinse from surfaces, and phenol compounds can be toxic to felines).

14. Sanitizing/disinfecting agents:

AGENT	DILUTION	CONTACT TIME	EXPIRES	COMMENTS/USES
Chlorine bleach	½ oz/gal	2 min	Make daily	Sanitization/hard surfaces
	6oz/gal	5 min	Make daily	Disinfection/hard surfaces
Clidox -S	1base:5 water:1activator	5 min	24 hours	Disinfectant,/Non metallic surfaces
	1base:18 water:1activator	5 min	14 days	Disinfectant/ Non metallic surfaces
Oxivir	Undiluted	5 min	> 1 year	Disinfection/hard surfaces
Sporicidin	Undiluted	10 min	> 1 year	Sanitization /Hard surfaces

15. After final rinse caging is stacked in a clean area in a manner to facilitate drying.

16. Sanitation procedures should be monitored daily using **SOP #1010** entitled **Microbiological Monitoring of Sanitation Procedures** for guidance until procedures are well established.

17. Efficacy of sanitation is monitored in accordance with **SOP #1139** entitled **Charm Sciences NovaLum Luminometer**

#### IV. SAFETY PROCEDURES

1. Wear appropriate personal protective equipment when working in cage wash areas. Equipment to consider includes heavy rubber gloves, eye protection, waterproof apron, and rubber boots when appropriate.
2. Protective eyewear must be worn when working with caustic/corrosive chemicals.
3. An eyewash station must be located in the designated cage-wash area.
4. Read label directions and MSDS for all cleaning chemicals. Never mix chemicals unless authorized to do so or it is described on the label directions.

Approved:

Date: