

Auburn University Risk Management and Safety Standard Operating Procedure	Effective Date: 10/11/2018		SOP Number: AP – 102 -5
	Supersedes AP-102-4	Superseded: AP-102-3	Page: 1 of 4
Subject: Managing Animals Dosed with Hazardous Drugs or Hazardous Chemicals	Approval: <u>Donna Tucker</u> Risk Management and Safety		
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I. PURPOSE

This document provides standard procedures for managing animals, animal bedding, and other objects potentially contaminated after the animals have been dosed with hazardous drugs or hazardous chemicals.

II. SCOPE

The guideline applies to managing animals, their bedding, etc. in animal care facilities.

III. APPLICATION

The guideline applies to, but is not limited to, the following categories of hazardous drugs and chemicals and is not all inclusive:

Anthracyclines (Doxorubicin, Daunorubicin)
Paclitaxel
Vincristine
Phenelthylamino selenide
Cisplatin
Azoxymethane

V. GENERAL GUIDELINES

Note: Some drugs and chemicals are toxic to the human fetus and can disturb the development of a fetus, cause birth defects, or cause miscarriage. Please refer to the Auburn University Reproductive Health Policy at: <https://sites.auburn.edu/admin/universitypolicies/Policies/ReproductiveHealthPolicy.pdf>

Animals that have been dosed with a hazardous drug or a hazardous chemical may excrete some of that substance into bedding, usually during the first 72 hours after dosing. Excretion times may be extended past 72 hours for some hazardous drugs. Animal Care Personnel can be exposed to these drugs or chemicals through skin exposure or by breathing dust or fumes during the animal care or cage cleaning process. Adverse health effects from hazardous drug or chemical exposure can include harm to internal organs, damage to the reproductive system, genetic damage, birth defects, and cancer.

SAFE HANDLING PROCEDURES FOR THOSE HANDLING ANIMALS/BEDDING OF ANIMALS DOSED WITH HAZARDOUS DRUGS OR HAZARDOUS CHEMICALS

Facility Managers will review this SOP with animal care attendants prior to the employees working with animals that have been dosed with hazardous drugs or hazardous chemicals or the animal's caging.

PPE Requirements

Cover open cuts or irritated skin with an impervious bandage during animal care.

All personnel working with animals that have been dosed with hazardous chemicals or hazardous drugs should don the following PPE:

- Disposable closed front gown
- Disposable shoe covers.

- Disposable hair bonnet
- Nitrile gloves. Change Gloves when they become torn or obviously contaminated with excreta AND before handling animals in other experimental groups. Wash hands after removing gloves.
- Safety glasses, goggles, or face shields. If these items will be reused, wash them with water and detergent, and store in a clean place.

Signage Requirements

- Animals receiving hazardous drugs or hazardous chemicals will be housed in an animal room designated for use of hazardous drugs or hazardous chemicals with the appropriate signage. (Example included with this guideline).
- **MANDATORY INVESTIGATOR ITEMS:**
- Investigators must label cage cards with the agent that has been administered and specify if the drug is a chemotherapy drug.
- Place a copy of the Safety Data Sheet (SDS) in the Notebook outside the animal housing room.

Animal Care Procedures

- All animals will be housed in cages on ventilated racks. Effluent air will pass through a HEPA filter and be vented outdoors.
- Open cages in a ventilated cage changing station, a ventilated biological safety cabinet, or a chemical fume hood that is assigned to the room. This includes opening cages for animal care, cage changing, or for experiment related reasons.
- Cage changes will be performed once per week. All used animal bedding, uneaten feed, etc. will be double bagged and managed by RMS. Cages will be emptied in a ventilated cage dumping station, a vented biosafety cabinet, or a chemical fume hood that is assigned to the animal room.
- Spray interior and exterior of cages, feeders, water bottles and other cage parts with a 10% bleach solution prior to transport to cage wash. Leave the bleach solution in contact with surfaces for 3-5 minutes.
- Cages, feeders, water bottles and other cage parts will be sent to cage wash for washing.
- Water remaining inside the animal's water bottle can be poured into a drain, unless the drug or chemical is administered via the water. If the drug or chemical is administered via the animal's water, contact RMS for collection and management. If the drug or chemical is administered via the animal's water triple rinse water bottles and water bottle components prior to washing.
- Clean surfaces and instruments in the animal room with a 10 % bleach solution. Leave the bleach solution in contact with surfaces for 3-5 minutes. After wiping up the bleach solution clean with Quatricide PV. Proceed from least contaminated area to most contaminated area when cleaning.

NOTE: Do not Autoclave Chemotherapeutic Waste. Autoclaving does not destroy most toxic chemicals and hazardous drugs. Autoclaving chemotherapeutic waste can cause release of dangerous fumes.

Disposal Procedures

Medical Waste will be collected in red bags and containers. Chemotherapeutic Waste will be collected in yellow bags and containers.

- All soiled animal bedding, uneaten feed, PPE etc. will be double bagged in appropriate bags and managed by Risk Management and Safety (RMS). To seal waste bags gooseneck and securely tape the inner bag then gooseneck and securely tape the outer bag. Schedule bag waste pickups by calling Steven Nolen at 703-3859 or Billy Cannon at 703-0419.
- Water remaining inside the animal's water bottle can be poured into a drain, unless the drug or chemical is administered via the water. If the drug or chemical is administered via the animal's water, contact RMS for collection and management. If the drug or chemical is administered via the animal's water triple rinse water bottles and water bottle components prior to washing.
- Animal carcasses will be placed in closed, leak proof containers and stored in a cooler for RMS pickup and disposal. Schedule carcass pickups by submitting a waste pickup request via AIM at: <https://aim.auburn.edu/aim> . If you do not have AIM access, contact Steven Nolen at 703-3859 for direction.
- Place sharps in in the appropriate puncture proof and leak proof sharps container. Schedule sharps waste

- pickups by calling Steven Nolen at 703-3859 or Billy Cannon at 703-0419.
- Waste bags and containers must be leak proof, clean, and closed for transport through the building.

Animal Bite Procedures

- Put the animal back in its cage.
- Wash the wound for 15 minutes with soap and vigorously running water directed at the wound.
- Inform your supervisor.
- Go to Auburn University Medical Clinic at 400 Lem Morrison Drive 844-4416 for evaluation of the animal bite and exposure to a hazardous drug or hazardous chemical. Take a copy of the Safety Data Sheet (SDS) Safety Data sheet with you.
- Complete a First Report of Injury form at <https://cws.auburn.edu/rms/pm/claims>

References:

Ann. Occup. Hyg., Vol. 57, No. 4, pp. 456–469, 2013 © The Author 2012. Published by Oxford University Press on behalf of the British Occupational Hygiene Society doi:10.1093/annhyg/mes087 456

Evaluation of Decontamination Efficacy of Cleaning Solutions on Stainless Steel and Glass Surfaces Contaminated by 10 Antineoplastic Agents Thomas Queruau Lamerie,¹ Susanne Nussbaumer,^{2,5} Bertrand Décaudin,^{1,3*} Sandrine Fleury-Souverain,² Jean-François Goossens,⁴ Pascal Bonnabry^{2,5} and Pascal Odou^{1,3}

Cleaning surfaces contaminated w/ Chemo drugs

CDC.gov <http://www.cdc.gov/niosh/topics/antineoplastic/sampling.html>

Decontamination and Deactivation of Antineoplastic Agents

Division of Laboratory Animal Medicine, University of North Carolina at Chapel Hill (2011)

Handling Cages Dosed with Chemical Hazards. Retrieved from

http://research.unc.edu/ccm/groups/public/@research/@iacuc/documents/content/ccm3_030595.pdf

Environmental, Health and Safety Department, University of Wisconsin-Madison (2012) Considerations for use of Antineoplastics Guidance Document. Retrieved from <http://www.ehs.wisc.edu/documents/occ-OH-GUI-006-ConsiderationsForUseOfAntineoplastics.pdf>

National Institute of Occupational Safety and Health (NIOSH) List of Antineoplastic and Other Hazardous Drugs in Healthcare Settings 2010. Retrieved from <http://www.cdc.gov/niosh/docs/2010-167>

Occupational & Environmental Safety, Office Biological Safety Division, Duke University. (2012) Standard Operating Procedure for Handling Animals Dosed with Toxic Chemicals. Retrieved from <http://www.safety.duke.edu/BioSafety/Animals.htm#sopp>

Prudent Practices in the Laboratory: Handling and Disposal of Chemicals (1995). Retrieved from http://www.nap.edu/openbook.php?record_id=4911&page=232

Robert, Jacques, and Luca Gianni." Pharmacokinetics and Metabolism of Anthracyclines." *Cancer Surveys* Volume 17 (1993) Pages: 219-252.

WARNING!



TOXIC CHEMICAL HAZARD

Carcinogen

Reproductive Hazard

Other (Specify):

See Safety Data Sheet

Principal Investigator: _____

Agent(s)/Concentration: _____ Dose: _____

Date/Time Administered: _____ Route: _____

Required PPE:

- Don double nitrile gloves, closed-front gown, shoe covers, hair cover, and face shield, safety glasses or goggles before dumping bedding.
- Open cages (including for cage-change) in ventilated cage-changing station, ventilated biological safety cabinet, or chemical fume hood.
- Dump bedding in ventilated dumping station, ventilated biological safety cabinet, or chemical fume hood.

Emergency Contact	Name	Work Phone	Afterhours Number
Primary			
Secondary			