

Chemical Hazard Use

The NCI Animal Care and Use committee requires that all chemical hazards used in laboratory animals be identified in both sections E and J of the Animal Study Proposal (ASP). In section E the use of the hazard should be described in sufficient detail to ensure that the committee understands how many animals will be exposed; by what route; the number and frequency of doses; and the concentration and volume to be administered. It is also important to indicate when non-pharmaceutical grade materials will be used (see ARAC guideline on use of pharmaceutical grade compounds: http://oacu.od.nih.gov/ARAC/documents/Pharmaceutical_Compounds.pdf). In section J chemical hazards should be identified in the table and all fields must be completed. For modifications all safety hazards need to be identified in Section D with comparable level of detail to that listed above. For both ASPs and modification the MSDS of each chemical hazard must accompany the submission. A DOHS safety representative will review all hazards during the pre-review process and will provide specific guidance in section J to ensure appropriate safety precautions are employed for each compound.

If Section J of the approved ASP contains safety requirements, such as Personal Protective Equipment (PPE) or waste disposal, that are different from the standard facility practices a specific hazard location may be specified where the study must take place. If a specific room in the animal facility is designated for chemical hazard use with a particular ASP, the location will be noted in section J along with the special practices to be employed by the research and facility staff. If no location is identified, the PI should coordinate with the facility manager to determine the appropriate location. The PI is responsible to ensure that personnel authorized to work with the chemical hazards adhere to these requirements.

Per DOHS and facility requirements a meeting must occur with the Principal Investigator (PI) or designee, facility manager, facility veterinarian, safety representative, and the staff providing the animal care to go over the risks, potential routes of exposure, necessary precautions to prevent exposure, and the steps to take if an exposure occurs. This meeting should take place after the ASP is approved and prior to initiation of any administration of chemical hazards. The research staff must notify the facility staff when hazard use is to begin and must comply with all cage labeling requirements as noted in the checklist below.

The greatest risks of chemical hazard use in animals are typically at the time of administration and again later as quantities are excreted into the animal bedding. Special procedures are utilized in these hazard rooms to handle animals and dispose of the soiled bedding safely during this period. Unless otherwise specified by DOHS, 72 hours after administration of the last dose of a chemical the animal is no longer considered to be secreting sufficient quantities of the chemical to be hazardous. Following the 72 hours the animals are placed into clean cages and then considered free of hazard. The cage may then be transported elsewhere; however, movement of cages in and out of the designated hazardous animal room must be coordinated with the facility manager. To optimize availability of these rooms, cages should not enter the hazard-labeled room more than 7

days prior to hazard administration and should not remain in the designated room more than 7 days after the hazard has been cleared unless prior arrangements have been made with the Animal Resource Program Manager.

To ensure the appropriate requirements are met for ASPs using hazardous chemicals, the following checklist should be used:

Animal Study Proposal

- Name of all chemical hazards included in section J
- Detail of usage (route, frequency, number of doses, concentration, volume)
- Grade of material used (pharmaceutical or reagent grade)
- Section J completed with all required details
- MSDS included

Training

- Staff is appropriately trained for the procedures involving the chemical hazards, including required PPE, hazard administration, and clean-up/waste disposal procedures
- Staff is aware of the appropriate location for the hazard work to be conducted
- Training records for all personnel handling hazardous substances are maintained, per Division of Occupational Health and Safety (DOHS)

Animal Facility Usage

- Meeting with facility manager, facility veterinarian, safety representative prior to administration of hazards
- Inform facility staff prior to administration if it has been >90 days since the last use of the chemical hazard
- Only perform the work in the facility location designated in Section J of the approved ASP (if applicable)
- Cages enter designated hazard room no more than 7 days prior to hazard administration and not remain more than 7 days after the hazard has been cleared
- Animals placed into clean cages 72 hours after administration of the last dose (then considered free of hazard)
- Chemicals are not to be stored in the animal facilities, but aliquots should be transported safely to the animal facility, consistent with DOHS-required safety practices
- All cages must be labeled appropriately to include the name of the hazard, concentration, dose, route, and dates of administration, and contact information (Special hazard labels on orange cards are placed over the regular cage card in the cage card holder)
- Follow DOHS disposal requirements