

COMPARATIVE MEDICINE
LABORATORY ANIMAL FACILITIES

STANDARD OPERATING PROCEDURE
for

SAFETY PRECAUTIONS FOR USING N-NITROSO-N-METHYLUREA (NMU)

1. **PURPOSE:** This SOP outlines the Occupational Health and Safety Guidelines that should be followed when working with N-nitroso-N-methylurea (NMU) in the animal facility. N-nitroso-N-methylurea is a carcinogen (a chemical that can cause cancer). It is used to induce animal models of cancer. Contact with eyes, skin, and clothing should be avoided. Inhalation of dust must be prevented. N-nitroso-N-methylurea may be excreted in the urine or feces of animals that have been injected with it, so precautions must be taken when handling urine, feces, or bedding from injected animals.
2. **SCOPE:** This SOP applies to all Research staff and LAF staff working with this chemical.
3. **PROCEDURE:**
 - a. Personnel must enroll in the Occupational Health Medical Program at UB, and attend NMSU safety training.
 - b. Animal work associated with this chemical can be conducted in standard animal rooms. Animals may be housed in conventional wire-top cages.
 - c. The PI will place chemical hazard tags on animal cages after injecting them with N-nitroso-N-methylurea. Chemical hazard tags will be located in the animal room.
 - d. The chemical hazard tags must remain on the cages for 3 days. After 3 days the animal's cages will be changed. The animal caretakers may remove the chemical hazard tags at this time.
 - e. A NIOSH N-95 face mask, nitrile gloves, safety glasses, and a clean lab coat or disposable gown must be worn when handling animals or performing cage changes of chemical hazard-tagged cages.
 - f. After changing animals to a clean cage, dirty bedding should be wetted down with water in the animal housing room, prior to cage dumping, to reduce dust. Cages should be dumped in the animal room where the animals are housed. It is not necessary to use a biologic safety cabinet for cage changing or dumping. After dumping, cages can be processed through the cage washer in a standard manner.
 - g. Contaminated bedding, material, and carcasses should be incinerated.
 - h. Animal bites do not pose any increased risk. As per standard policy, bites should be reported to your supervisor and veterinary staff, and SOP 3.F.1 should be followed.
 - i. In the event of a N-nitroso-N-methylurea spill:
 - i. To reduce the risk of spills in the animal facility, the PI will do all mixing and preparation of N-nitroso-N-methylurea and all animal injections in their laboratory.

- ii. Protective equipment consisting of rubber gloves, lab coat, and a face mask will be used during clean up of N-nitroso-N-methylurea spills.
- iii. For powder spills (NMU powder has not yet been mixed with saline), place a dampened paper towel over the powder, then gently wipe up the spill, folding the material into the paper towel. The floor can then be washed with water which will be absorbed using "Speedy-Dry absorbent" or similar absorbent material available in the chemical spill kit present in the lab, and then discarded as hazardous waste.
- iv. For spills that occur after the N-nitroso-N-methylurea has been mixed into solution, the spill can be contained using "Speedy-Dry absorbent or similar absorbent material available in the chemical spill kit present in the lab, and then discarded as hazardous waste.