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| Appendix A: Hazardous Materials information for AUP # | | | |
| **Identity of Hazard:** Formaldehyde / Formalin / Paraformaldehyde | | | |
| PI name: | Building/Rooms: | | Vivarium: |
| **Provide a short description of the reagent(s):** Formaldehyde (gas/liquid), Formalin (buffered formaldehyde) and Paraformaldehyde (solid formaldehyde) are reagent used commonly in the preservation and fixation of biological tissues and organisms. Paraformaldehyde is a white crystalline sand-like solid that when dissolved creates a liquid formaldehyde solution. | | | |
| **This material is hazardous for:**  Humans only  Animals only  Humans and animals  For which animal species? | | **The reagent can be spread by:**  Blood  Feces/urine  Saliva/nasal droplets  Does not leave animal  Other | |
| **Describe any human health risk associated with this agent:**  Formalin can cause significant skin corrosion/irritation/sensitization, serious eye damage/irritation, and is a mutagen and carcinogen. It is considered a Category 1 (most severe) Target Organ Toxicity for the CNS and respiratory system on a single exposure. It is acutely toxic by ingestion.  In addition to the above hazards, Formaldehyde is also acutely toxic by inhalation and skin contact. On repeated exposure it is a Category 1 Target Organ Toxicity on kidney, liver, heart, spleen, and blood.    Paraformaldehyde can cause skin irritation and sensitization, serious eye damage, and is suspected of causing cancer. It is considered a Category 3 Target Organ Toxicity for the respiratory system.  The state of California categorizes Formalin as causing reproductive harm. Pregnant researchers or those who may become pregnant should consult with a physician before work.  Formaldehyde in aqueous solution is combustible. | | | |
| **The precautions checked below apply to this experiment:**  The researcher or his/her technicians are responsible for the feeding and care of these animals.  The following items must be assumed to be contaminated with hazardous material and must be handled only by the researcher or his/her technicians.   |  |  | | --- | --- | | Cage  Water Bottle  Animal Carcasses | Bedding  Other |   Cages must be autoclaved before cleaning.  Label cages and remove label after decontamination.  Animal Carcasses must be labeled and disposed of as follows:   |  |  | | --- | --- | | Incineration  Bag and Autoclave | Biohazardous Waste Container  EH&S will pick up (x5528) |   All contaminated waste (soiled bedding or other animal waste) must be properly labeled and disposed of as follows:   |  |  | | --- | --- | | Incineration  Bag and Autoclave | Biohazardous Waste Container  EH&S will pick up (x5528) | | | | |
| **Personal Protective Equipment (PPE) Required:**  The following PPE must be worn/used in the room or when handling animals:   |  |  | | --- | --- | | Lab Coat/Coveralls  Shoe Covers/Booties  Disposable or Utility Gloves  Head Cover  NIOSH Certified Dust Mask | Disinfectant Footbath  Eye/Face Protection  NIOSH Certified Fitted Respirator; Type  Other |   PPE must be removed before leaving the room.  PPE must be discarded or decontaminated at the end of the project.  Hands, arms, and face must be thoroughly washed upon leaving the room.  Full shower, including washing of hair, must be taken upon leaving the room.  Decontaminate room (Inform Lead Animal Technician when cage and/or room can be returned to general use. | | | |
| **Provide any other information needed to safely work in this designated area of research:**  The permissible exposure limit (PEL) for formaldehyde in the workplace is 0.75 ppm as an 8-hour time-weighted average. The short-term exposure limit (STEL) is 2.0 ppm as a 15-minute time weighted average. Concentrations of 100ppm or more are immediately dangerous to life and health. Contact EH&S (ehslaboratory@ucr.edu) for concerns or questions about exposures and monitoring.  The preparation of all formaldehyde solutions and handling of solid formaldehyde should take place in a fume hood or local exhaust ventilation (canopy hood, snorkel).  High-concentration formaldehyde solutions (>4%) should be handled in a fume hood or local exhaust ventilation.  All Formalin, formaldehyde, and paraformaldehyde waste should be disposed of as hazardous chemical wastes through EH&S. | | | |