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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[x]  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.

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| [ ]  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:

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| [ ]  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:

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| --- | --- |
| [ ]  Incineration[ ]  Bag and Autoclave | [ ]  Biohazardous Waste Container[ ]  EH&S will pick up (x5528) |

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| **Personal Protective Equipment (PPE) Required:**[ ]  The following PPE must be worn/used in the room or when handling animals:

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| [x]  Lab Coat/Coveralls[ ]  Shoe Covers/Booties[x]  Disposable or Utility Gloves[ ]  Head Cover[ ]  NIOSH Certified Dust Mask | [ ]  Disinfectant Footbath[x]  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.[x]  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.  |