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| Appendix A: Hazardous Materials information for AUP # | | | |
| Identity of Hazard: Streptozotocin (STZ) | | | |
| PI name: | Building/Rooms: | | Vivarium: |
| Provide a short description of the reagent(s): Streptozotocin (STZ) is an antibiotic produced by *Streptomyces achromogenes.* STZ is selectively toxic to beta cells, entering via the glucose transporter GLUT2, causing alkylation of DNA (Szkudelski T. Physiol Rev, 2001). Damage of DNA induces activation of poly ADP-ribosylation, depletion of cellular NAD+ and ATP, and formation of superoxide radicals, all leading to the destruction of beta cells. Thus, STZ is extensively utilized as a method to induce diabetes in various animal model systems. | | | |
| **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: Streptozotocin (STZ) is a highly hazardous substance, suspected carcinogen, mutagen and teratogen that is harmful to the following organs: blood, kidneys, nervous system, liver, digestive system, skin, eyes, bone marrow, muscle tissue and pancreas. STZ is non-volatile and thus only represents a risk in its crystalline and solubilized forms. Primary routes of occupational exposure to STZ include: inhalation, ingestion, accidental injection, and dermal absorption. | | | |
| **The precautions checked below apply to this experiment:**  The researcher or his/her technicians are responsible for the feeding and care of these animals. \*\*\*Only first 72 hours.  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 N95 or higher when working with powder form  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:  Any handling, including weighing of powder, preparation of dilutions, injection in rodents, first cage change after injection, and any procedure with the potential of producing aerosols, must be conducted in a certified chemical fume hood or in a Type II Biological Safety Cabinet (BSC). Work areas should be protected from spills by placing an absorbent pad with an impervious backing (absorbent material facing up). The absorbent pad and all waste that have potentially come in contact with STZ should be disposed of as a hazardous material. Areas where hazardous agents are prepared and/or administered must be cleaned and decontaminated immediately following each procedure. Surfaces with potential for STZ contamination should be routinely cleaned with detergent and water or Virkon. Follow sharp safety precautions: dispose of syringes and needles in sharps container located near point of injection and do not recap needles. For powder or major liquid spills outside of a fume hood or BSC, immediately evacuate the lab area for at least 30 minutes before proceeding with spill cleanup while wearing appropriate PPE. Review Safety Data Sheets (SDS) and/or Standard Operating Procedures (SOPs) prior to working with the material. | | | |