

Standard Operating Procedures for Streptozotocin (STZ)

For an Emergency refer to the Safety Data Sheet

Hazards:

Carcinogen- known to cause cancer in humans

Mutagen- may cause heritable genetic damage

Possible Teratogen- may cause birth defects

Toxin- inhalation, ingestion, skin contact

Chemical handling instructions:

Personal Protective Equipment (PPE):

Those handling STZ must wear chemically resistant gloves, lab coat, eye protection, and appropriate lab attire (pants, closed-toe shoes). If manipulations will occur outside of a chemical fume hood, personnel must wear respirator with a P100 filter.

Preparing Streptozotocin solutions:

1. Those preparing STZ must always handle it inside a certified chemical fume hood.
2. The work area should be prepared by laying down an absorbent work surface with the absorbent material facing up. Tape the edges of the absorbent material to prevent its movement in the fume hood.
3. Care should be taken to not generate any aerosol during the preparation or injection procedure. Always wash hands after removing gloves following handling Streptozotocin.
4. To clean areas where STZ has been handled, wash the area with soap and paper towels after removing the absorbent material. Any contaminated paper towels will then be placed into a container for hazardous waste, appropriately labeled for waste removal and placed in a designated area for disposal.

Waste Disposal:

1. Any leftover/unused STZ should be collected for disposal as chemical waste. All disposable materials contaminated with the chemical and residual chemical must be disposed of as hazardous waste.
2. Re-useable glassware and other non-porous materials can be decontaminated by soaking in 10% bleach for 24 hours.
3. Used needles/syringes should be disposed in a sharps container destined for incineration.
4. Contact the Safety Office at x2697 or SafetyOffice@unthsc.edu for hazardous waste pickup.

Animal Experiments

Research staff must inform DLAM in advance that Streptozotocin will be used, and arrangements will be made for appropriate animal housing.

Injecting animals with Streptozotocin:

1. Animals must be injected with STZ within a Class II Type B Biosafety cabinet or designated fume hood.
2. Animal handlers must wear PPE as above with a 2nd pair of gloves (double-glove).

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3. All needles must be disposed of in sharps container – do not recap or bend needles.
4. Dispose of waste as described above.

Cage handling:

1. DLAM staff should be made aware of STZ use and cage cards should be labeled with “STZ” after injection.
2. Animal cages and bedding are considered hazardous for a minimum of 3 days after an injection. The first cage change after each drug administration is to be done no sooner than 3 days after the administration.
3. The bedding is considered contaminated and requires special handling. All bedding changes should be handled using procedures that minimize aerosolization.
4. After this first cage change there is no need for further special precautions to be taken regarding the animals or the cages as long as the animals have not received any more Streptozotocin.
5. Dispose of all contaminated bedding and animal carcasses in waste container to be incinerated.