

Use of Streptozotocin (STZ)

Purpose:

To provide guidance for the use of Streptozotocin (STZ) in the laboratory and animal facility environment. STZ is used at UW-Madison in animal research for a variety of research applications, primarily Type 1 diabetes research.

Precautions:

The following information can be used to complete the Safety section of your animal protocol.

1. Chemical hazard agents – (Identify the category of the chemical): (*Select the following*)
 - Carcinogen
 - Reproductive Hazard/Teratogen
 - Irritant (respiratory/eye/skin)
 - Toxicant/Toxic Agent
 2. Containment preparation – (Containment equipment required for the preparation of the chemical): (*Select one of the following*)
 - Fume Hood

OR

 - Ducted Biosafety Cabinet (BSC)
 3. Containment animals – (Containment equipment required for chemical administration and handling animals after exposure to the chemical): (*Select one of the following*)
 - Fume Hood

OR

 - Ducted Biosafety Cabinet (BSC)
- NOTE:** For Rodents: Microisolators or other containment type housing is recommended.
4. PPE needed - (for handling live animals, carcasses or animal waste/dirty bedding): (*Select all of the following*)
 - Exam gloves – nitrile
 - Safety glasses/goggles
 - Lab coat or disposable gown

5. Waste Disposal: (disposal of animal waste/dirty bedding from animals after exposure to the chemical) (*Select both options and include additional information for Other*)

- Bag animal waste/dirty bedding and place sealed bag in secondary container and place secondary container in regular trash.
- Other: Signage is required on each individual cage containing the chemical health hazard symbol and “Agent, End date and Disposal method”. Signs are removed when special handling time has ended. *Cage signage available at www.ehs.wisc.edu

6. Carcass disposal: *(Select the following)*

- Pick up by EH&S for incineration

7. Chemical human risk: *(Add the following)*

- STZ is carcinogenic and cytotoxic. STZ is teratogenic and is associated with embryonic and neonatal developmental delays. The toxic effects on fertility are manifested through disruption of testicular function and ovarian disruption. Pregnant and lactating women should avoid exposure to STZ and animals that have been administered STZ. Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled. May be harmful if swallowed. May be harmful if absorbed through skin. May cause skin irritation. May cause eye irritation.

Additional Information: Unused, expired, or unwanted mixtures of this compound that were intended to be applied to animals are regulated as a “Hazardous Waste Pharmaceuticals”. The unwanted portion should be contained (bagged or other sealed container), labeled as a “Hazardous Waste Pharmaceuticals”, an applicable descriptor (flammable, toxic etc.), and the date first item is placed into the container. Varying waste pharmaceuticals can be placed into the same container and offered to UW-EHS for disposal. The waste items must be offered to UW-EHS within one year of the date on the container. Contact UW-EHS for disposal via the following link:
<https://ehs.wisc.edu/disposal-services/chemical-disposal/chemical-disposal-surplus-pick-up-form/>

References:

“Streptozotocin: Safe Working Practices Information Page”, Virginia Commonwealth University, Office of Environmental Health & Safety, Nov. 2009.
<http://www.vcu.edu/oehs/chemical/biosafe/STZinfo.pdf>

“Streptozotocin SDS”

<http://www.sigmaaldrich.com/catalog/product/sial/85882?lang=en®ion=US>

