

Order Number

Customer Number

1. Identification of the substance/preparation and of the company/undertaking

Product name : Streptozotocin **Catalog #** : 572201
Chemical formula : C₈H₁₅N₃O₇ **Supplier** : EMD Biosciences, Inc.
10394 Pacific Center Court
San Diego, CA 92121
(858)450-5558/(800)854-3417
FAX: (858)453-3552
Synonym : 2-Deoxy-2-(3-methyl-3-nitrosoureido)-D-glucopyranose

Emergency telephone number : Call Chemtrec®
 (800)424-9300 (within U.S.A.)
 (703)527-3887 (outside U.S.A.)

2. Composition / information on ingredients

Substance/Preparation : Substance

Chemical name*	CAS No.	EC Number	Symbol	R-Phrases
streptozotocin	18883-66-4	242-646-8	T	R20/21/22, R45, R61

3. Hazards identification

Physical/chemical hazards : Not applicable.

Human health hazards : WARNING!
 CAN CAUSE HERITABLE GENETIC EFFECTS.
 SUSPECT CANCER HAZARD.
 MAY CAUSE CANCER.
 MAY BE HARMFUL IF INHALED, ABSORBED THROUGH SKIN OR SWALLOWED.
 MAY CAUSE BIRTH DEFECTS BASED ON ANIMAL DATA.
 MAY CAUSE DAMAGE TO THE FOLLOWING ORGANS: BLOOD, KIDNEYS, NERVOUS SYSTEM, LIVER, DIGESTIVE SYSTEM, SKIN, EYES, BONE MARROW, MUSCLE TISSUE, PANCREAS.

4. First-aid measures

First-Aid measures

Inhalation : If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Ingestion : Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
Skin Contact : In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
Eye Contact : Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

Effects and symptoms

Inhalation : Hazardous in case of inhalation.
Ingestion : Hazardous in case of ingestion.
Skin Contact : Hazardous in case of skin contact (permeator).

Aggravating conditions : Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

5. Fire-fighting measures

- Flammability of the Product** : May be combustible at high temperature.
- Extinguishing Media**
- Suitable** : SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
- Hazardous thermal (de)composition products** : These products are carbon oxides (CO, CO₂), nitrogen oxides (NO, NO₂...).
- Special fire-fighting procedures** : Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.
- Protection of fire-fighters** : Be sure to use an approved/certified respirator or equivalent.

6. Accidental release measures

- Personal precautions** : Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
- Small Spill and Leak** : Use appropriate tools to put the spilled solid in a convenient waste disposal container.
- Large Spill and Leak** : Use a shovel to put the material into a convenient waste disposal container.

7. Handling and storage

- Handling** : Keep locked up. Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust. Avoid contact with skin. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as alkalis.
- Storage** : Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above -20°C (-4°F).
- Packaging materials**
- Recommended use** : Use original container.

8. Exposure controls/personal protection

- Engineering measures** : Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
- Hygiene measures** : Wash hands, forearms, and face thoroughly after handling compounds and before eating, smoking, using lavatory, and at the end of day.

<u>Ingredient Name</u>	<u>Occupational Exposure Limits</u>
Streptozotocin	Not available.

Personal protective equipment

- Respiratory system** : Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
- Skin and body** : Lab coat.
- Hands** : Gloves.
- Eyes** : Safety glasses.
- Protective Clothing (Pictograms)** :



9. Physical and chemical properties

- Physical state** : Solid. (Crystalline solid.)
- Color** : White to yellowish. (Light.)
- Molecular Weight** : 265.2 g/mole
- Melting Point** : 115°C (239°F)
- Solubility** : Easily soluble in cold water.
- Flash point** : Not available.
- Explosive properties** : Risks of explosion of the product in presence of mechanical impact: Not available.
Risks of explosion of the product in presence of static discharge: Not available.

10. Stability and reactivity

Stability	: The product is stable.
Conditions to avoid	: Not available.
Materials to avoid	: Reactive with alkalis.
Hazardous Decomposition Products	: These products are carbon oxides (CO, CO ₂), nitrogen oxides (NO, NO ₂ ...).

11. Toxicological information

RTECS #	: LZ5775000
Local effects	
Skin irritation	: Not available.
Acute toxicity	: LD50: Not available. LC50: Not available.
Chronic toxicity	: Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.
Other Toxic Effects on Humans	: Not available. Hazardous in case of skin contact (permeator), of ingestion, of inhalation. May cause tumors. In vitro studies in mammal cells have shown mutagenic action. May cause congenital malformations in the foetus. Exposure can cause nausea, headache and vomiting. Repeated or prolonged exposure to the substance can produce liver damage. Repeated or prolonged exposure to the substance can produce kidney damage. Direct contact with the eyes can cause irreversible damage including blindness.
Specific effects	
Carcinogenic effects	: Classified 1 (Proven for human.) by European Union. Classified 2B (Possible for human.) by IARC. Classified 2 (Reasonably Anticipated To Be Human Carcinogens.) by NTP.
Mutagenic effects	: Classified 1 by European Union. Classified POSSIBLE for human. Mutagenic for mammalian germ and somatic cells based on <i>in vitro</i> studies.
Reproduction toxicity	: Not available.
Teratogenic effects	: Classified POSSIBLE for human.

12. Ecological information

Ecotoxicity	: Not available.
Toxicity of the Products of Biodegradation	: The products of degradation are less toxic than the product itself.


13. Disposal considerations

Methods of disposal; Waste of residues; Contaminated packaging	: Waste must be disposed of in accordance with federal, state and local environmental control regulations.
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14. Transport information

International transport regulations	
Land - Road/Railway	
ADR/RID Class	: Not controlled under ADR (Europe).
Sea	
IMDG Class	: Not controlled under IMDG.
Air	
IATA-DGR Class	: Not controlled under IATA.
Special Provisions for Transport	: Not applicable.

15. Regulatory information

EU Regulations	
Hazard symbol(s)	: 
Classification	: Toxic
Risk Phrases	: R20/21/22- Harmful by inhalation, in contact with skin and if swallowed. R45- May cause cancer. R46- May cause heritable genetic damage. R61- May cause harm to the unborn child.

Safety Phrases

- : S22- Do not breathe dust.
- S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.
- S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Contains

- : - streptozotocin

U.S. Federal Regulations

- : TSCA: No products were found.
- SARA 302/304/311/312 extremely hazardous substances: No products were found.
- SARA 302/304 emergency planning and notification: No products were found.
- SARA 302/304/311/312 hazardous chemicals: streptozotocin
- SARA 311/312 MSDS distribution - chemical inventory - hazard identification: streptozotocin: Delayed (Chronic) Health Hazard
- SARA 313 toxic chemical notification and release reporting: No products were found.
- Clean Water Act (CWA) 307: No products were found.
- Clean Water Act (CWA) 311: No products were found.
- Clean air act (CAA) 112 accidental release prevention: No products were found.
- Clean air act (CAA) 112 regulated flammable substances: No products were found.
- Clean air act (CAA) 112 regulated toxic substances: No products were found.

HCS Classification

- : CLASS: May cause cancer.
- CLASS: Target organ effects.

State Regulations

- : California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: streptozotocin
- California prop. 65: This product contains the following ingredients for which the State of California has found to cause reproductive harm (female) which would require a warning under the statute: streptozotocin
- California prop. 65: This product contains the following ingredients for which the State of California has found to cause reproductive harm (male) which would require a warning under the statute: streptozotocin
- California prop. 65 (no significant risk level): streptozotocin
- California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: streptozotocin
- California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: streptozotocin
- Pennsylvania RTK: streptozotocin: (special hazard, environmental hazard, generic environmental hazard)
- Massachusetts RTK: streptozotocin
- New Jersey: streptozotocin

WHMIS (Canada)

- : CLASS D-2A: Material causing other toxic effects (VERY TOXIC).
- CLASS D-2B: Material causing other toxic effects (TOXIC).

No products were found.

16. Other information

Hazardous Material Information System (U.S.A.)

Health	* 4
Fire Hazard	1
Reactivity	0
Personal Protection	E

National Fire Protection Association (U.S.A.)



Notice to Reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

*Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. **This product is intended for research use only.***

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