1. IDENTIFICATION

Product Identifier: Streptozocin
Distributor Name: TOKU-E Company
Distributor Address: 715 W Orchard Dr, Suite 3
Bellingham, WA 98225
Phone Number: (360) 734-1789
Emergency Phone Number (International): +1 (352) 323-3500
Emergency Phone Number (US only): 1 (800) 535-5053
Safety Data Sheet Issued by: TOKU-E USA
CAS-No.: [18883-66-4]
EC/REACH Number: [242-646-8]
Recommended Use: Last resort anti-tumor agent commonly used to treat metastatic cancer of pancreatic islet cells
Restrictions on Use: Not for human or animal use

2. HAZARD(S) IDENTIFICATION

GHS Classification: Carcinogenicity (Category 1B), H350
GHS Label Elements, Including Precautionary statements:

Signal word: Danger

Hazard Statements: H350: May cause cancer
Precautionary Statements

P201: Obtain special instructions before use
P202: Do not handle until all safety precautions have been read and understood
P281: Use personal protective equipment as required
P308 + P313: IF exposed or concerned: Get medical advice/attention
P405: Store locked up
P501: Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC) by GHS

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonym(s)

N-(Methylnitrosocarbamoyl)-α-D-glucosamine
Streptozotocin

Formula

C₈H₁₅N₃O₇

Molecular Weight

265.22 g/mol

CAS-No.

[18883-66-4]

EC No.

[242-646-8]

Index-No.

Not available

Hazardous components

Streptozocin
Carc. 1B; H350 <= 100%

4. FIRST-AID MEASURES

General Advice

Consult a physician. Show this Safety Data Sheet to the medical provider

If Inhaled

If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a doctor

In Case of Skin Contact

Wash thoroughly with plenty of soap and water. Consult a physician

In Case of Eye Contact

Rinse thoroughly with plenty of water as a precaution
If Swallowed

Never give anything by mouth to an unconscious person. Consult a doctor. Rinse mouth with water.

Most important symptoms and effects, both acute and delayed

Please see Section 2 and/or Section 11

Indication of any immediate medical attention and special treatment needed

No data available

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Water spray, alcohol-resistant foam, dry chemical, carbon dioxide

Special Protective Equipment for Firefighters

Wear self-contained breathing apparatus

Hazardous Combustion Products

Formed under fire conditions: Carbon and Nitrogen oxides

6. ACCIDENTAL RELEASE MEASURES

General

Evacuate personnel to safe location

Personal Precautions

Wear respiratory protection. Avoid dust formation and breathing vapors/mist/dust/gas. Ensure adequate ventilation

Environmental Precautions

Prevent spillage, do not let product enter drains

Methods of Containment and Cleanup

Place in suitable, closed containers for licensed disposal. Avoid dust formation

7. HANDLING AND STORAGE

Precautions for Safe Handling

Avoid contact with skin and eyes. Provide exhaust ventilation in areas where dust if formed

Precautions for Safe Storage

Keep container tightly closed and in a dry, well-ventilated place. Hygroscopic. Recommended storage temperature: -20°C

Incompatibilities

None known
8. **EXPOSURE CONTROLS/ PERSONAL PROTECTION**

Contains no substances with occupational exposure limit values

**PPE: Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate, use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)

**PPE: Hand Protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal techniques to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices, and wash and dry hands

**PPE: Eye Protection**

Use a face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU)

**PPE: Skin and Body Protection**

Handle with gloves. Wear protective clothing. Choose body protection according to the amount and concentration of the dangerous substance at the work place. When deemed needed according to the concentration and amount of this product, use a complete body suit

9. **PHYSICAL/CHEMICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>White to off-white powder</td>
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<tr>
<td>pH</td>
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<td>Melting Point/Freezing Point</td>
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<td>Flash Point</td>
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<tr>
<td>Ignition Temperature</td>
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<tr>
<td>Autoignition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower Explosion Limit</td>
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</tr>
</tbody>
</table>
Upper Explosion Limit: No data available
Vapor Pressure: No data available
Density: No data available
Water Solubility: Freely soluble
Solubility in Other Solvents: No data available
Partition Coefficient: n-octanol/water: No data available
Optical Rotation: +39°
Absorbance (290nm, 5% in H₂O): No data available
Water content (Loss on drying): ≤1.0%

10. STABILITY AND REACTIVITY
- Chemical Stability: Stable under recommended storage conditions
- Possibility of Hazardous Reactions: No data available
- Conditions to Avoid: No data available
- Materials to Avoid: Strong oxidizing agents, strong acids, strong bases
- Hazardous Decomposition Products: Carbon and Nitrogen oxides

11. TOXICOLOGICAL INFORMATION
- Oral LD₅₀: Rat: 5,150 mg/kg
- Inhalation LC₅₀: No data available
- Dermal LD₅₀: No data available
- Intraperitoneal LD₅₀: No data available
- Intravenous LD₅₀: No data available
- Subcutaneous LD₅₀: No data available
- Skin Corrosion/Irritation: No data available
- Serious Eye Damage/ Eye Irritation: No data available
- Respiratory or Skin Sensitization: No data available
Germ Cell Mutagenicity
Laboratory experiments have shown mutagenic effects
Human Kidney: DNA damage
Rat Liver: Unscheduled DNA synthesis
Hamster Lungs: Sister chromatid exchange
Rat: DNA damage, Unscheduled DNA synthesis

Carcinogenicity
Possible human carcinogen
IARC: 2B - Group 2B: Possibly carcinogenic to humans (Streptozocin)
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH
NTP: Reasonably anticipated to be a human carcinogen (Streptozocin)
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA

Reproductive Toxicity
No data available

Specific Target Organ Toxicity: Single Exposure (Globally Harmonized System)
No data available

Specific Target Organ Toxicity: Repeated Exposure (Globally Harmonized System)
No data available

Aspiration Hazard
No data available

Potential Health Effects
See Section 2, Hazard(s) Identification

Signs and Symptoms of Exposure
To the best of our knowledge, the chemical, physical, and toxicological properties of this material have not been thoroughly investigated

Synergistic Effects
No data available

Additional Information
RTECS: LZ5775000
Vomiting
Liver - Irregularities: Based on Human Evidence

12. ECOLOGICAL INFORMATION
Toxicity
No data available
Persistence and Degradability  No data available
Bioaccumulative Potential  No data available
Mobility in Soil  No data available
PBT and vPvB Assessment  No data available

13. DISPOSAL CONSIDERATIONS

Product  Dispose of product through a licensed disposal company
Contaminated Packaging  Dispose of as unused product

14. TRANSPORTATION INFORMATION

DOT (US)  UN number: 3077 Class: 9 Packing group: III
Proper shipping name: Environmentally hazardous substances, solid, n.o.s. (Streptozocin) Reportable Quantity (RQ): 1 lbs
Poison Inhalation Hazard: No

IMDG  Not Dangerous Goods
IATA  Not Dangerous Goods

15. REGULATORY INFORMATION

SARA 302 Components  No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

SARA 313 Components  This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313

SARA 311/312 Hazards  Chronic Health Hazard
Massachusetts Right to Know Components  Streptozocin
CAS-No. [18883-66-4]
Revision Date: 1993-04-24

Pennsylvania Right to Know Components  Streptozocin
CAS-No. [18883-66-4]
Revision Date: 1993-04-24
New Jersey Right to Know Components
Streptozocin
CAS-No. [18883-66-4]
Revision Date: 1993-04-24

California Prop. 65 Components
WARNING! This product contains a chemical known to the State of California to cause cancer
Streptozocin
CAS-No. [18883-66-4]
Revision Date: 2007-09-28

EU Information
SDS in accordance with REACH 1907/2006
Streptozocin
CAS-No. [18883-66-4]
EC-No. [242-646-8]
Envisaged registration deadline: 30/11/2010

16. OTHER INFORMATION
Date of last revision: 2015-08-12

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. TOKU-E Company shall not be held liable for any damage resulting from handling or from contact with the above product. Please see reverse side of invoice or packing slip for additional terms and conditions of sale.