1. Chemical Product Identification

Product Name: Streptomycin
Molecular Formula: C_{21}H_{39}N_{7}O_{12}
Molecular Weight: 581.57
Form: Powder
Color: White
Odor: Distinctive odor.
CAS No.: 57-92-1
2. **Composition / Information on Ingredients**

<table>
<thead>
<tr>
<th>Composition</th>
<th>CAS No.</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Streptomycin</td>
<td>57-92-1</td>
<td>99%</td>
</tr>
<tr>
<td>Other ingredients</td>
<td></td>
<td>1%</td>
</tr>
</tbody>
</table>

3. **Hazards Identification**

Emergency Overview: Danger of serious damage to health by prolonged exposure. Irritating to eyes, respiratory system and skin.

Potential Health Effects:
- Eyes: May cause irritation.
- Skin: May cause irritation to skin.
- Ingestion: May cause gastrointestinal discomfort.
- Inhalation: May cause irritation to respiratory tract.

4. **First Aid Measures**

**Eye**: Check for and remove any contact lenses. Do not use an eye ointment. Seek medical attention.

**Skin**: After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

**Serious Skin Contact**: Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

**Inhalation**: Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

**Ingestion**: Do not induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

5. **Fire-Fighting Measures**

**Flammability of the Product**: May be combustible at high temperature.

Flash Points: Not available.
Flammable Limits: Not available.

**Products of Combustion**: These products are carbon oxides (CO, CO₂), nitrogen oxides (NO, NO₂...), sulfur oxides (SO₂, SO₃...).

**Fire Fighting Media and Instructions**:

**SMALL FIRE**: Use DRY chemical powder.

**LARGE FIRE**: Use water spray, fog or foam. Do not use water jet.

**Special Remarks on Fire Hazards**: Not available.

**Special Remarks on Explosion Hazards**: Not available.

6. **Accidental Release Measures**

**Small Spill**: Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

**Large Spill**: Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

7. **Handling and Storage**

**Precautions**: 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. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes.

**Storage**: Keep container dry. Keep in a cool place. Ground all equipment containing material. Keep container tightly closed. Keep in a cool, well-ventilated place. Combustible materials should be stored away from extreme heat and away from strong oxidizing agents.

8. **Exposure Controls/Personal Protection**

**Engineering Controls**: 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.

**Personal Protection**: Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

**Personal Protection in Case of a Large Spill**: 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.

**Exposure Limits**: Not available.

9. Physical and Chemical Properties

Physical state and appearance: White powder

Odor: Distinctive odor.

Melting Point: 12°C

Vapor Pressure: \(7.76 \times 10^{-23}\) mPa at 25°C.

Octanol-water partition coefficient: Log \(P_{ow}\) = -7.5 at pH 7 and 20°C

Solubility: In water 1000 g/l at 20°C

10. Stability and Reactivity

**Stability**: Stable

**Conditions to Avoid**: Heat and sources of ignition.

**Incompatibility (Materials to Avoid)**: Oxidizers, Acids.

**Corrosivity**: Non-corrosive in presence of glass.

**Hazardous Decomposition Products**: Nitrogen compounds, COx,

**Hazardous Polymerization**: Will not occur

11. Toxicological Information

**Routes of Entry**: Dermal contact, eye contact, inhalation, ingestion.

**Toxicity to Animals**: Acute oral LD\(_{50}\) for: 400 mg/kg

**Chronic Effects on Humans**: Developmental toxicity: proven. The substance is toxic to the nervous system, the reproductive system.

**Other Toxic Effects on Humans**: Very hazardous in case of skin contact (irritant), of ingestion, of inhalation. Hazardous in case of skin contact (permeator).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

12. Ecological and Ecotoxicological Information

Ecotoxicity: Not available.
BOD5 and COD: Not available.

Products of Biodegradation: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are more toxic.

Special Remarks on the Products of Biodegradation: Not available.

13. Disposal Considerations
Waste Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.

14. Transport Information
Not applicable.

15. Regulatory Information
Not applicable.

16. Other Information
All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith and believed to be correct. This information applies to the product as such. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produce formulations containing this product, it is the recipients sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.