1. IDENTIFICATION

Product Identifier: Spectinomycin DiHCl 5H₂O
Product Number: S006
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) 353-3500
Emergency Phone Number (US Only): 1 (800) 535-5053
Safety Data Sheet Issued by: TOKU-E USA
CAS-Number: [22189-32-8]
EC/REACH Number: [606-950-8]
Recommended Use: Spectinomycin is commonly used in clinical in vitro microbiological antimicrobial susceptibility tests
Restrictions of Use: Not for human or animal use

2. HAZARD(S) IDENTIFICATION

GHS Classification:
Skin corrosion/irritation (Category 2)
Serious eye damage/eye irritation (Category 2A)
Specific target organ toxicity, single exposure; respiratory tract irritation (Category 3)

GHS Label Elements, Including:

Signal Word: Warning

Hazard Statements:
H315 Causes skin irritation
H319 Causes serious eye irritation
H335 May cause respiratory irritation

Precautionary Statements:
P264 Wash hands/skin thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 IF ON SKIN: Wash with plenty of water/soap
P321 Specific treatment, see applicable response statements on this label
P332+P313 IF SKIN irritation occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P305+P351+P3 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 IF eye irritation persists: Get medical advice/attention.
P261 Avoid breathing dust/fumes/gas/mist/vapors/spray.
3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonym(s)  
Actinospectacin dihydrochloride pentahydrate, 
Especotomicin dihydrochloride pentahydrate, M 141 
dihydrochloride pentahydrate, Spectinomycin 
dihydrochloride pentahydrate, Spectogard, Togamycin

Formula  
C₁₄H₂₄N₂O₇•2HCl•5H₂O

Molecular Weight  
495.35

CAS-Number  
[22189-32-8]

EC/REACH Number  
[606-950-8]

Hazardous Components  
Skin corrosion/irritation (Category 2) 
Serious eye damage/eye irriation (Category 2A) 
Specific target organ toxicity, single exposure; 
respiratory tract irritation (Category 3)

4. FIRST-AID MEASURES

General Advice  
Consult a doctor/physician if exposed - additional 
medical care may be required. Show this Safety Data 
Sheet to the medical provider.

If Inhaled  
If inhaled, move to fresh air. If not breathing, give 
artificial respiration and immediately call local 
emergency telephone number.

In Case of Skin Contact  
Wash skin thoroughly with soap and water.

In Case of Eye Contact  
Flush eye with water. After initial flush, remove any 
contact lenses and continue flushing for at least 15 
minutes.

If Swallowed  
Rinse mouth with water. Immediately call a doctor, 
physician, or poison control center. Never give 
anything by mouth to an unconscious person.

Specific Treatment  
Please see Section 2 precautionary statements 
and/or Section 11.

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, carbon monoxide,
hydrogen peroxide

6. ACCIDENTAL RELEASE MEASURES
   General Evacuate personnel to a safe location. Use appropriate personal protective equipment while in contact with product. Avoid dust formation. Ensure adequate ventilation.

   Personal Precautions Prevent contamination of skin, eyes and clothing with appropriate protective equipment (Section 8). Wear respiratory protection.

   Environmental Precautions Recover waste, if possible, and place in suitable closed container for licensed disposal. Prevent spillage - do not let product enter drains.

7. HANDLING AND STORAGE
   Precautions for Safe Handling Wear appropriate protective clothing/gear to prevent contact with skin and eyes. Provide exhaust ventilation or respiratory protection in areas where dust is formed.

   Precautions for Safe Storage Store in a tightly closed container. Protect from humidity. Recommended storage temperature: 2-8°C

   Incompatibilities No Data Available

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION
   Contains no substance/substances with occupational exposure limit values

   OSHA Permissible Exposure Limits No Data Available
   NIOSH Recommended Exposure Limits No Data Available
   ACGIH Threshold Limit Values No Data Available

   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
9. PHYSICAL/CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>White or off-white crystalline powder</td>
</tr>
<tr>
<td>Lower Flammability/Explosion Limit</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Upper Flammability/Explosion Limit</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Odor</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Odor Threshold</td>
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</tr>
<tr>
<td>Vapor Density</td>
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<tr>
<td>pH</td>
<td>4.0 – 5.0</td>
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<tr>
<td>Relative Density</td>
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</tr>
<tr>
<td>Melting Point/Freezing Point</td>
<td>205-207°C</td>
</tr>
<tr>
<td>Water Solubility</td>
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</tr>
<tr>
<td>Solubility in Other Solvents</td>
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</tr>
<tr>
<td>Boiling Point and Range</td>
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</tr>
<tr>
<td>Flash Point</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Partition Coefficient: n-octanol/water</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Ignition Temperature</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Auto-Ignition Temperature</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
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</tr>
<tr>
<td>Viscosity</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Density</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Specific Rotation</td>
<td>+15.0° - +21.0°</td>
</tr>
<tr>
<td>Absorbance (290nm, 5% in H₂O)</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Water Content (Karl Fisher)</td>
<td>≤21.0%</td>
</tr>
</tbody>
</table>

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
- Hazardous Decomposition Products: Formed under fire conditions: carbon and nitrogen oxides, carbon monoxide, hydrogen peroxide

11. TOXICOLOGICAL INFORMATION

- Oral LD₅₀: Rat: >5gm/kg
- Inhalation LC₅₀: No Data Available
- Dermal LD₅₀: No Data Available
Intraperitoneal LD$_{50}$ Rat: 2020 mg/kg
Intravenous LD$_{50}$ No Data Available
Subcutaneous LD$_{50}$ Rat: >5gm/kg
Skin Corrosion/Irritation No Data Available
Serious Eye Damage/ Eye Irritation No Data Available
Respiratory or Skin Sensitization No Data Available
Germ Cell Mutagenicity No Data Available
Carcinogenicity This substance has not been identified as a potential carcinogen within the National Toxicology Program Report on Carcinogens or within the International Agency for Research on Cancer Monograph.
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 Heath 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 No Data Available

12. ECOLOGICAL INFORMATION
Toxicity No Data Available
Persistence and Degradability No Data Available
Bio accumulative Potential No Data Available
Mobility in Soil No Data Available
PBT and vPvB Assessment No Data Available
In the absence of complete ecological information, treat product as environmentally hazardous. Use proper storage, handling, and disposal to prevent unintentional release into the environment.

13. DISPOSAL CONCENTRATIONS
Product Dispose of product through a licensed disposal company.
Contaminated Packaging Dispose of as unused product.

14. TRANSPORTATION INFORMATION
DOT (US) Not a Dangerous Good
IMDG Not a Dangerous Good
IATA Not a Dangerous Good

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
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 313.

SARA 311/312 Hazards
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 311/312

Massachusetts Right to Know
No components are subject to the Massachusetts Right to Know Act

Pennsylvania Right to Know
No components are subject to the Pennsylvania Right to Know Act

New Jersey Right to Know
No components are subject to the New Jersey Right to Know Act

California Prop. 65 Components
This product does not contain any chemicals known to the State of California to cause birth defects, cancer, or any other reproductive harm

EU Information
SDS in accordance with REACH 1907/2006
EC/ REACH Number [606-950-8]
CAS-Number [22189-32-8]
Name: Spectinomycin DiHCl 5H2O
Envisaged Registration Deadline: 31/05/2018
See GHS Information under Section 2, Hazard Identification

16. OTHER INFORMATION
Revision Date: 2016-08-16

HMIS Rating
Health Hazard No Data Available
Chronic Health Hazard No Data Available
Flammability No Data Available
Physical Hazard No Data Available

NFPA Rating
Health Hazard No Data Available
Fire Hazard No Data Available
Reactivity Hazard No Data Available

This safety data sheet represents TOKU-E Company’s current understanding of the hazards associated with this product. The stated hazard information is based on existing experimental data and is not guaranteed to be all-inclusive. TOKU-E Company strives to maintain current and comprehensive safety information but recognizes that this safety data sheet may require revision as new information becomes available. TOKU-E Company shall not be held liable for damage or injury resulting from contact, handling, or storage of this product.