SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier
Product Identifier: Bleomycin A5 hydrochloride
Product Number: B004
CAS Number: [55658-47-4]
EC Number: No Data Available

1.2 Relevant identified uses of the substance or mixture and uses advised against
Recommended Use: Cell culture selection antibiotic.
Restrictions of Use: Not for human or animal use

1.3 Details of the supplier of the safety data sheet
Distributor Name: TOKU-E Company
Distributor Address: 715 W Orchard Dr. Suite 3
Bellingham, WA 98225
Phone Number: (360)734-1789
E-mail Address: info@toku-e.com
Safety Data Sheet Issued by: TOKU-E Company (USA)

1.4 Emergency telephone number
Emergency Phone Number (International): +1 (352) 353-3500
Emergency Phone Number (US Only): 1 (800) 535-5053

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
GHS Classification:
Acute toxicity, oral (Category 4)
Skin irritation (Category 2)
Eye irritation (Category 2A)
Respiratory sensitisation (Category 1)
Skin sensitisation (Category 2)
Reproductive toxicity (Category 2)
Specific target organ toxicity - single exposure (Category 3)

(Please refer to Section 16 for regulatory information)
2.2 Label elements, including precautionary statements

GHS Label Elements:

![GHS Label Elements](image)

Signal Word: Danger

Hazard Statements

- H302 Harmful if swallowed
- H315 Causes skin irritation
- H319 Causes serious eye irritation
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
- H317 May cause an allergic skin reaction
- H361 Suspected of damaging fertility or the unborn child
- H335 May cause respiratory irritation

Precautionary Statements

- P264 Wash hands/skin thoroughly after handling.
- P270 Do not eat, drink, or smoke when using this product.
- P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician IF you feel
- P330 Rinse mouth
- P501 Dispose of contents/container in accordance with governmental regulation
- 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
- P322+P313 IF SKIN irritation occurs: Get medical advice/attention.
- P362+P364 Take off contaminated clothing and wash it before reuse.
- P305+P351+ IF IN EYES: Rinse cautiously with water for several minutes. Remove contact
- P338 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.
- P284 In case of inadequate ventilation wear respiratory protection
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P342+P311 If experiencing respiratory symptoms: call a POISON CENTER or doctor/physician
- P272 Contaminated work clothing should not be allowed out of the workplace.
- P333+P313 IF SKIN irritation or rash occurs: Get medical advice/attention.
- P363 Wash contaminated clothing before reuse.
- P201 Obtain special instructions before use
- P202 Do not handle until all safety precautions have been read and understood
- P308+P313 IF exposed or concerned: Get medical advice/attention.
- P405 Store locked up.
- P271 Use only outdoors or in a well-ventilated area.
- P312 Call a POISON CENTER/doctor if you feel unwell.

2.3 Other hazards which do not result in classification

Hazards not otherwise classified (HNOC) by GHS

No Data Available
SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

<table>
<thead>
<tr>
<th>Synonym(s)</th>
<th>N(sup 1)-(3-((4-Aminobutyl)amino)propyl)bleomycinamide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formula</td>
<td>C_{57}H_{89}N_{19}O_{21}S_{2} \cdot \text{HCl}</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>1477.02</td>
</tr>
<tr>
<td>CAS Number</td>
<td>[55658-47-4]</td>
</tr>
<tr>
<td>EC Number</td>
<td>No Data Available</td>
</tr>
</tbody>
</table>

Hazardous Ingredients

- Bleomycin A5 hydrochloride
- Acute toxicity, oral (Category 4)
- Skin irritation (Category 2)
- Eye irritation (Category 2A)
- Respiratory sensitisation (Category 1)
- Skin sensitisation (Category 2)
- Reproductive toxicity (Category 2)
- Specific target organ toxicity - single exposure (Category 3)

SECTION 4: FIRST-AID MEASURES

4.1 Description of 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.

4.2 Most important symptoms/effects, acute and delayed

**Specific Treatment**

Please see Section 2 and Section 11.

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Item specific treatment information would go in this section. Otherwise, no data available

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media

**Suitable Extinguishing Media**

Water spray, alcohol-resistant foam, dry chemical, carbon dioxide
5.2 Special hazards arising from the substance or mixture
Hazardous Combustion Products
Formed under fire conditions: carbon and nitrogen oxides, carbon monoxide, sulfur dioxide, hydrogen chloride gas, hydrogen peroxide

5.3 Advice for firefighters
Special Protective Equipment for Firefighters
Wear self-contained breathing apparatus

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
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.

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

6.3 Methods and materials for containment and cleaning up
The recommended course of action is to treat any incident that involves the spill/release of a chemical substance as if it were hazardous in nature until the appropriate personnel have been consulted. Wear personal protective equipment as necessary. If accessible, use a spill kit. For powder spills, avoid generating dust during cleanup.

6.4 Reference to other sections
Refer to section 8 for exposure control.
Refer to section 13 for disposal information.

SECTION 7: HANDLING AND STORAGE

7.1 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.

7.2 Conditions for safe storage, including any incompatibilities
Store in a tightly closed container. Protect from humidity.
Recommended storage temperature: 2-8°C

Incompatibilities
No Data Available
7.3 Specific end use(s) Refer to section 1.2

SECTION 8: EXPOSURE CONTROLS/ PERSONAL PROTECTION

8.1 Control parameters
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

8.2 Exposure controls
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

SECTION 9: PHYSICAL/CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties
Appearance Powder
Odor No Data Available
Odor Threshold No Data Available
pH No Data Available
Melting Point/Freezing Point No Data Available
Initial Boiling Point and Range No Data Available
Flash Point No Data Available
Evaporation rate: No Data Available
Flammability (solid, gas): No Data Available
Upper Flammability/Explosion Limit: No Data Available
Lower Flammability/Explosion Limit: No Data Available
Vapor Pressure: No Data Available
Vapor Density: No Data Available
Relative Density: No Data Available
Water Solubility: No Data Available
Solubility in Other Solvents: No Data Available
Partition Coefficient: n-octanol/water: No Data Available
Auto-Ignition Temperature: No Data Available
Decomposition Temperature: No Data Available
Viscosity: No Data Available
Explosive Properties: No Data Available
Oxidizing Properties: No Data Available
Optical Rotation: No Data Available
Absorbance (290nm, 5% in H₂O): No Data Available
Water Content (Loss on Drying): No Data Available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity: No Data Available
10.2 Chemical stability: Stable under recommended storage conditions
10.3 Possibility of hazardous reactions: No Data Available
10.4 Conditions to avoid: No Data Available
10.5 Incompatible materials: Strong oxidizing agents
10.6 Hazardous decomposition products: Formed under fire conditions: carbon and nitrogen oxides, carbon monoxide, sulfur dioxide, hydrogen chloride gas, hydrogen peroxide

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Oral LD₅₀: Rat: 800 mg/kg
Inhalation LC₅₀: No Data Available
Dermal LD₅₀: No Data Available
Intraperitoneal LD₅₀: Rat: 66 mg/kg
Intravenous LD₅₀: Rat: 75 mg/kg
Subcutaneous LD₅₀: Mouse: 67 mg/kg
Skin Corrosion/Irritation: No Data Available
SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity
No Data Available

12.2 Persistence and degradability
No Data Available

12.3 Bioaccumulative potential
No Data Available

12.4 Mobility in Soil
No Data Available

12.5 PBT and vPvB assessment
No Data Available

12.6 Other adverse effects
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.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Dispose unused/spoiled product in accordance with local and federal regulations. Sewering is not an acceptable form of waste disposal.

Product
Dispose of product through a licensed disposal company.

Contaminated Packaging
Dispose of as unused product.

SECTION 14: TRANSPORTATION INFORMATION
DOT (US) | Not a Dangerous Good  
IMDG | Not a Dangerous Good  
IATA | Not a Dangerous Good  

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Section 2/3: Hazards identification/labelling in accordance with OSHA 29 CFR 1910.1200  
Section 2/3: Hazards identification/labelling in accordance with Regulation (EC) 1272/2008  
SDS in accordance with Regulation (EC) 1907/2006  

| 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 Regulation (EC) 1907/2006  
Identification, classification and labelling in accordance with Regulation (EC) 1272/2008  
EC Number No Data Available  
CAS Number [55658-47-4]  
Name: Bleomycin A5 hydrochloride  
Envisaged Registration Deadline: No Data Available  

15.2 Chemical safety assessment

EU Information | For this product a chemical safety assessment was not carried out
16. OTHER INFORMATION
Revision Date: 2017-03-08

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.