1. IDENTIFICATION

Product Identifier
Polymyxin B1-I Sulfate

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.
[80469-10-9]

EC/ REACH Number
Not available

Recommended Use
Microbiological antimicrobial susceptibility tests (panels, discs, and MIC strips) against gram negative microbial isolates

Restrictions on Use
Not for human or animal use

2. HAZARD(S) IDENTIFICATION

GHS Classification
Acute toxicity, oral (Category 4)

GHS Label Elements, Including Precautionary statements

Signal word: Warning
Hazard Statements

H302: Harmful if swallowed

Precautionary Statements

P264: Wash skin thoroughly after handling
P270: Do not eat, drink or smoke when using this product
P301+P310: If swallowed, immediately call a poison center or doctor/physician
P330: Rinse mouth
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) None
Formula $C_{56}H_{98}N_{16}O_{13} \cdot H_2SO_4$
Molecular Weight 1301.57 g/mol
CAS-No. [80469-10-9]
EC No. Not available
Index-No. Not available
Hazardous components Not available

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 for at least 15 minutes
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

Indication of any immediate medical attention and special treatment needed

Please see Section 2 and/or Section 11

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, Sulfur 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. Recommended storage temperature: 2-8°C

**Incompatibilities**
None known

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

PPE: Respiratory protection
For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. 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>
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</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>White powder</td>
</tr>
<tr>
<td>pH</td>
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<td>Upper Explosion Limit</td>
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</tr>
<tr>
<td>Vapor Pressure</td>
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</tbody>
</table>
### Density
No data available

### Water Solubility
Soluble

### Solubility in Other Solvents
No data available

### Partition Coefficient: n-octanol/water
No data available

### Optical Rotation
No data available

### Absorbance (290nm, 5% in H₂O)
No data available

### Water content (Loss on drying)
No data available

### 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**
Carbon and Nitrogen oxides, Sulfur oxides

### 11. TOXICOLOGICAL INFORMATION

**Oral LD₅₀**
Rat: 790 mg/kg

**Inhalation LC₅₀**
No data available

**Dermal LD₅₀**
No data available

**Intraperitoneal LD₅₀**
Mouse: 20.5 mg/kg

**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**
No data available
Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by IARC
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: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP
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

Gastrointestinal effects- vomiting, diarrhea, and abdominal pain.
To the best of our knowledge, the chemical, physical, and toxicological properties of this substance have not been thoroughly investigated

Synergistic Effects

No data available

Additional Information

Not available

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) Not Dangerous Goods
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 Acute Health Hazard
Massachusetts Right to Know Components No components are subject to the Massachusetts Right to Know Act
Pennsylvania Right to Know Components No components are subject to the Pennsylvanıa Right to Know Act
New Jersey Right to Know Components 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
A registration number is not available for this substance or its uses are exempted from registration, the annual tonnage does not require a registration, or the registration is envisaged for a later registration deadline.
See GHS Information under Section 2, Hazard Identification
16. OTHER INFORMATION

Date of last revision: 2015-08-05

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.