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:

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
P332+P313	IF SKIN irritation occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P305+P351+ P338	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.
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/physiciar
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

Synonym(s)	N(sup 1)-(3-((4-Aminobutyl)amino)propyl)bleomycinamide
Formula	$C_{57}H_{89}N_{19}O_{21}S_2$ • HCl
Molecular Weight	1477.02
CAS Number	[55658-47-4]
EC Number	No Data Available
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 H_2O)	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 LD_{50}	Rat: 800 mg/kg
Inhalation LC_{50}	No Data Available
Dermal LD_{50}	No Data Available
Intraperitoneal LD_{50}	Rat: 66 mg/kg
Intravenous LD_{50}	Rat: 75 mg/kg
Subcutaneous LD_{50}	Mouse: 67 mg/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 (GHS)	Category 3
Specific Target Organ Toxicity: Repeated Exposure (GHS)	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

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	No 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.