1. **IDENTIFICATION**

   - **Product Identifier**: Netilmicin sulfate
   - **Product Number**: N004
   - **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**: [56391-57-2]
   - **EC/REACH Number**: [260-147-3]
   - **Recommended Use**: Netilmicin sulfate is commonly used in clinical in vitro microbiological antimicrobial susceptibility tests (panels, discs, and MIC strips) against gram positive and gram negative microbial isolates. Medical microbiologists use AST results to recommend antibiotic treatment options for infected patients.

   - **Restrictions of Use**: Not for human or animal use

2. **HAZARD(S) IDENTIFICATION**

   - **GHS Classification**: Toxic to reproduction (Category 1B)
   - **GHS Label Elements, Including**:
     - **Hazard Statements**: H360 May damage fertility or the unborn child
     - **Precautionary Statements**:
       - P201 Obtain special instructions before use
       - P202 Do not handle until all safety precautions have been read and understood
       - P280 Wear protective gloves/protective clothing/eye protection/face protection.
       - P308+P313 IF exposed or concerned: Get medical advice/attention.
       - P405 Store locked up
       - P501 Dispose of contents/container in accordance with governmental regulation

   - **Hazards not otherwise classified (HNOC)**: No Data Available by GHS

3. **COMPOSITION/INFORMATION ON INGREDIENTS**
Synonym(s)  Certomycin, Netilllin, Netilyn, Netromicine, Netromycin, Nettacin, Vectacin, Zetamicin

Formula  $(C_{21}H_{41}N_5O_7)_{2} \cdot 5H_2SO_4$

Molecular Weight  1441.53

CAS-Number  [56391-57-2]

EC/ REACH Number  [260-147-3]

Hazardous Components  Netilmicin sulfate

Toxic to reproduction (Category 1B)

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, sulfur dioxide, 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
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 (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
Appearance White to pale yellowish-white powder
Lower Flammability/Explosion Limit No Data Available
Upper Flammability/Explosion Limit No Data Available
Odor No Data Available
Vapor Pressure No Data Available
Odor Threshold No Data Available
Vapor Density No Data Available
pH: 3.5-5.5
Relative Density: No Data Available
Melting Point/Freezing Point: >194°C (dec.)
Water Solubility: Very soluble
Solubility in Other Solvents: Almost insoluble in alcohol and ether
Boiling Point and Range: No Data Available
Flash Point: No Data Available
Evaporation rate: No Data Available
Flammability (solid, gas): No Data Available
Partition Coefficient: n-octanol/water: No Data Available
Ignition Temperature: No Data Available
Auto-Ignition Temperature: No Data Available
Decomposition Temperature: No Data Available
Viscosity: No Data Available
Density: No Data Available
Optical Rotation: +88° to +96°
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: Formed under fire conditions: carbon and nitrogen oxides, carbon monoxide, sulfur dioxide, hydrogen peroxide

11. TOXICOLOGICAL INFORMATION
Oral LD₅₀: Rat > 10,000 mg/kg
Inhalation LC₅₀: No Data Available
Dermal LD₅₀: No Data Available
Intraperitoneal LD₅₀: Rat - 231 mg/kg
 Intravenous LD₅₀: Rat - 40.7 mg/kg
Subcutaneous LD₅₀: Rat - 169 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: Fetal toxicity, including developmental and musculoskeletal abnormalities, was observed within the offspring of rats exposed to Netilmicin sulfate during gestation (TDLo - 138 mg/kg, 550 mg/kg, 650 mg/kg).
Specific Target Organ Toxicity: Single: No Data Available
Exposure (Globally Harmonized System)
Specific Target Organ Toxicity: Repeated  No Data Available
Exposure (Globally Harmonized System)
Aspiration Hazard  No Data Available
Potential Heath Effects  See Section 2, Hazard(s) Identification
Signs and Symptoms of Exposure  Common symptoms of exposure among rats within in vitro laboratory experiments include: depressed activity, ataxia and respiratory stimulation.

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
to Know Act

California Prop. 65 Components

WARNING! This product contains a chemical known to the State of California to cause birth defects or other developmental harm

Revision Date: 01/07/1990

EU Information

SDS in accordance with REACH 1907/2006
EC/ REACH Number [260-147-3]
CAS-Number [56391-57-2]
Name: Netilmicin sulfate
Envisaged Registration Deadline: 31/05/2013
See GHS Information under Section 2, Hazard Identification

16. OTHER INFORMATION

Revision Date: 2016-07-12

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.