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

1.1 Product identifier

Product Identifier	:	Neomycin Sulfate
Product Number	:	N003, N012, N016, N019, N028, N029
CAS Number	:	[1405-10-3]
EC Number	:	[215-773-1]
REACH Registration Number	:	A registration number is not available for this substance as the 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.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified Uses	:	For research use only - restricted to professional users.
Uses Advised Against	:	Not for human or animal use

1.3 Details of the supplier of the safety data sheet

Company	:	TOKU-E Company 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 (Internat.)	:	+1 (352) 353-3500 (INFOTRAC, 24-Hour Number)
Emergency Phone Number (US Only)	:	1 (800) 535-5053 (INFOTRAC, 24-Hour Number)

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008

Skin Sensitization (Category 1), H317
Respiratory Sensitization (Category 1), H334
Reproductive Toxicity - Developmental (Category 2), H361
Hazardous to the Aquatic Environment - Chronic (Category 3), H412

For the full text of the H-Statements mentioned in this section, see Section 16.

2.2 Label elements

Labelling according to Regulation (EC) No. 1272/2008

Hazard Pictogram(s):

Signal Word: Warning

Hazard Statement(s)

H317	May cause an allergic skin reaction
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H361	Suspected of damaging fertility or the unborn child
H412	Harmful to aquatic life with long lasting effects

Precautionary Statement(s)

P261	Avoid breathing dust/fumes/gas/mist/vapors/spray.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of water/soap
P333+P313	IF SKIN irritation or rash occurs: Get medical advice/attention.
P321	Specific treatment, see applicable response statements on this label
P362+P364	Take off contaminated clothing and wash it before reuse.
P501	Dispose of contents/container in accordance with governmental regulation
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.
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.
P273	Avoid release to the environment.

Supplemental Hazard Information

No data available

2.3 Other hazards

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Synonym(s) : Neomycin sulphate, Bykomycin, Fradiomycin sulfate

Formula : $C_{23}H_{46}N_6O_{13} \cdot 3\ H_2SO_4$

Molecular weight : 908.88 g/mol

Hazardous ingredients according to Regulation (EC) No. 1272/2008

Component	Classification	Concentration
Neomycin Sulfate		
CAS Number [1405-10-3] EC Number [215-773-1]	Skin Sens. 1, H317 Resp. Sens. 1, H334 Repr. 2, H361 Aquatic Chronic 3, H412	≤ 100%

For the full text of the H-Statements mentioned in this section, see Section 16.

SECTION 4: FIRST-AID MEASURES

4.1 Description of first-aid measures

General information

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. Consult a physician.

In case of skin contact

Wash skin thoroughly with soap and water. Remove any contaminated clothing. Consult a physician.

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.

Self-protection of the first aider
Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent the spread of contamination.

4.2 Most important symptoms/effects, acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media
Water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguising media
No data available

5.2 Special hazards arising from the substance or mixture

Hazardous Combustion Products
Carbon and nitrogen oxides, sulfur oxides

5.3 Advice for firefighters
Wear self-contained breathing apparatus if necessary.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Consult the safety measures listed in Section 7 and 8. Use personal protective equipment. Avoid breathing dust, vapors, mist or gas. Avoid direct contact with spilled substances. Ensure adequate ventilation. Avoid dust formation.
In the event of a spill, evacuate personnel to safe areas.
For personal protection see Section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up
Pick up and arrange disposal without creating dust. Sweep up and shovel.
Keep in suitable, closed containers for disposal.

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

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling
Avoid exposure: obtain special instructions before use. Avoid contact with skin and eyes.
Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.
For precautionary statements see section 2.2

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Protect from humidity.
Recommended storage temperature: 2-8 °C
Protect from light.

Incompatibilities:
Strong oxidizing agents

7.3 Specific end use(s)

Refer to section 1.2

SECTION 8: EXPOSURE CONTROLS/ PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters:
No OEL data available

8.2 Exposure controls

Appropriate engineering controls:
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling this product.

Personal Protective Equipment (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).

Skin 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. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the selected EN 374 derived from it.

Full Contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: > 480 min
Material tested: Dermatril® (KCL 740, Size M)

Splash Contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: > 480 min
Material tested: Dermatril® (KCL 740, Size M)

Data source: KCL GmbH, D-36124 Eichenzell,
phone +49 (0)6659 87300, email sales@kcl.de
Test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use. It should not be construed as offering an approval for any specific use scenario.

Eye/Face 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).

Body protection
Wear protective clothing. The type of protective equipment must be selected according to the concentration of the dangerous substance at the specific work place.

Environmental exposure controls
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	:	White or yellow-white 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/Lower Flammability or Explosive Limits	:	No data available
Vapour Pressure	:	No data available
Vapour Density	:	No data available
Relative Density	:	No data available
Solubility(ies)	:	Water: 50 mg/mL, Ethanol: 0.10 mg/mL, Methanol: 0.23 mg/mL
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
Oxidising Properties	:	No data available

9.2 Other information
No additional information relevant to safe use of the substance.

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
Exposure to light.

10.5 Incompatible materials
Strong oxidizing agents

10.6 Hazardous decomposition products

No data available

See Section 5 for hazardous combustion products.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Toxicity

Oral LD_{50}	:	Mouse: > 8 g/kg
Intraperitoneal LD_{50}	:	Mouse: 305 mg/kg
Intravenous LD_{50}	:	Mouse: 17.4 mg/kg
Subcutaneous LD_{50}	:	Mouse: 190 mg/kg

Skin Corrosion/Irritation
Human - Administration onto the skin - 6 mg/3D (Intermittent)
Standard Draize test - Mild reaction

Serious Eye Damage/ Eye Irritation
No data available

Respiratory or Skin Sensitization
No data available

Germ Cell Mutagenicity
No data available

Carcinogenicity
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by the International Agency for Research on Cancer Monograph.

Reproductive Toxicity
No data available

Specific Target Organ Toxicity: Single Exposure
No data available

Specific Target Organ Toxicity: Repeated Exposure
No data available

Aspiration Hazard
No data available

Additional Information
RTECS # QP4375000
Aminoglycosides are associated with significant nephrotoxicity and/or ototoxicity.
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects
Harmful to aquatic life with long lasting effects.

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

Product
Offer surplus and non-recyclable products to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Avoid disposal of material in drains or sewers. Waste material must be disposed of in accordance with the Directive on Waste 2008/98/EC as well as other national and local regulations.

Contaminated Packaging
Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

		ADR/RID	IMDG	IATA
14.1	**UN Number**	-	-	-
14.2	**UN Proper Shipping Name**	Not dangerous goods	Not dangerous goods	Not dangerous goods
14.3	**Transport Hazard Class(es)**	-	-	-
14.4	**Packing Group**	-	-	-
14.5	**Environmental Hazards**	No	Marine Pollutant: No	No

14.6 Special precautions for user
No data available

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not applicable.

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Authorizations and/or restrictions on use
Restricted to professional users.

15.2 Chemical safety assessment
For this product a chemical safety assessment was not carried out.

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3

H317	May cause an allergic skin reaction
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H361	Suspected of damaging fertility or the unborn child
H412	Harmful to aquatic life with long lasting effects

Abbreviations and acronyms

ADR/RID: European Agreements Concerning the International Carriage of Dangerous Goods by Road (ADR) and Rail (RID)
CAS No: Chemical Abstracts Service number
EC: European Commission
EC No: European Commission number
EHS: Environmentally Hazardous Substance
EU: European Union
H-Statement: Hazard Statement
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
IBC: International Bulk Chemical
IMDG: International Maritime Dangerous Goods Code
LC50: Lethal concentration, 50%
LD50: Median Lethal dose
MARPOL 73/78: International Convention for the Prevention of Pollution from Ships
NIOSH: National Institute for Occupation Safety and Health
OEL: Occupational Exposure Limit
PBT: Persistent, Bioaccumulative and Toxic
REACH: Registration, Evaluation, Authorisation and restrictions of Chemicals
SDS: Safety Data Sheet
UN: United Nations
vPvB: Very Persistent and Very Bioaccumulative

Further information

Revision Date: 2018-08-03

The above information is based upon the present state of our knowledge and is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information is believed to be correct but does not purport to be all inclusive. It does not represent any guarantees of the properties of the product. TOKU-E Company shall not be held liable for damage or injury resulting from contact, handling, or storage of the above product.