

## Kanamycin Acid Sulfate Formulation

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 15.12.2023  |
| 2.2     | 06.04.2024     | 11272792-00005 | Date of first issue: 18.09.2023 |

---

### Section 1: Identification

**Product identifier** : Kanamycin Acid Sulfate Formulation

**Recommended use of the chemical and restrictions on use**

Recommended use : Veterinary product  
Restrictions on use : Not applicable

**Manufacturer or supplier's details**

Company : MSD  
Address : 50 Tuas West Drive  
Singapore - Singapore 638408  
Telephone : +1-908-740-4000  
Emergency telephone number : 65 6697 2111 (24/7/365)  
E-mail address : EHSDATASTEWARD@msd.com

---

### Section 2: Hazard identification

**Classification of the substance or mixture**

Specific target organ toxicity - repeated exposure (Oral) : Category 1 (Auditory system)

Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 1

**GHS Label elements, including precautionary statements**

Hazard pictograms :  

Signal word : Danger

Hazard statements : H372 Causes damage to organs (Auditory system) through prolonged or repeated exposure if swallowed.  
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**  
P260 Do not breathe mist or vapours.

**Kanamycin Acid Sulfate Formulation**

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 15.12.2023  |
| 2.2     | 06.04.2024     | 11272792-00005 | Date of first issue: 18.09.2023 |

P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P273 Avoid release to the environment.

**Response:**

P314 Get medical advice/ attention if you feel unwell.  
P391 Collect spillage.

**Disposal:**

P501 Dispose of contents/ container to an approved waste disposal plant.

**Other hazards which do not result in classification**

None known.

**Section 3: Composition/information on ingredients**

Substance / Mixture : Mixture

**Components**

| Chemical name          | CAS-No.    | Concentration (% w/w) |
|------------------------|------------|-----------------------|
| Kanamycin acid sulfate | 64013-70-3 | $\geq 20$ -< 25       |
| Phenol                 | 108-95-2   | $\geq 0.1$ -< 0.25    |

**Section 4: First-aid measures****Description of necessary first-aid measures**

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.  
When symptoms persist or in all cases of doubt seek medical advice.

If inhaled : If inhaled, remove to fresh air.  
Get medical attention if symptoms occur.

In case of skin contact : Wash with water and soap as a precaution.  
Get medical attention if symptoms occur.

In case of eye contact : Flush eyes with water as a precaution.  
Get medical attention if irritation develops and persists.

If swallowed : If swallowed, DO NOT induce vomiting.  
Get medical attention if symptoms occur.  
Rinse mouth thoroughly with water.

**Most important symptoms and effects, both acute and delayed**

Risks : Causes damage to organs through prolonged or repeated exposure if swallowed.

Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).

**Indication of any immediate medical attention and special treatment needed**

Treatment : Treat symptomatically and supportively.

**Kanamycin Acid Sulfate Formulation**

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 15.12.2023  |
| 2.2     | 06.04.2024     | 11272792-00005 | Date of first issue: 18.09.2023 |

**Section 5: Fire-fighting measures****Extinguishing media**

Suitable extinguishing media : Water spray  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical

Unsuitable extinguishing media : None known.

**Special hazards arising from the substance or mixture**

Specific hazards during fire-fighting : Exposure to combustion products may be a hazard to health.

Hazardous combustion products : Carbon oxides

**Special protective actions for fire-fighters**

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.  
Use personal protective equipment.

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Use water spray to cool unopened containers.  
Remove undamaged containers from fire area if it is safe to do so.  
Evacuate area.

**Section 6: Accidental release measures****Personal precautions, protective equipment and emergency procedures**

Personal precautions : Use personal protective equipment.  
Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

**Environmental precautions**

Environmental precautions : Avoid release to the environment.  
Prevent further leakage or spillage if safe to do so.  
Prevent spreading over a wide area (e.g. by containment or oil barriers).  
Retain and dispose of contaminated wash water.  
Local authorities should be advised if significant spillages cannot be contained.

**Methods and materials for containment and cleaning up**

Methods for cleaning up : Soak up with inert absorbent material.  
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container.  
Clean up remaining materials from spill with suitable absorbent.  
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items

## Kanamycin Acid Sulfate Formulation

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 15.12.2023  |
| 2.2     | 06.04.2024     | 11272792-00005 | Date of first issue: 18.09.2023 |

employed in the cleanup of releases. You will need to determine which regulations are applicable.  
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

### Section 7: Handling and storage

#### Precautions for safe handling

- Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
- Local/Total ventilation : Use only with adequate ventilation.
- Advice on safe handling : Do not breathe mist or vapours.  
Do not swallow.  
Avoid contact with eyes.  
Avoid prolonged or repeated contact with skin.  
Wash skin thoroughly after handling.  
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment  
Do not eat, drink or smoke when using this product.  
Take care to prevent spills, waste and minimize release to the environment.
- Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.  
When using do not eat, drink or smoke.  
Wash contaminated clothing before re-use.  
The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.

#### Conditions for safe storage, including any incompatibilities

- Conditions for safe storage : Keep in properly labelled containers.  
Store in accordance with the particular national regulations.
- Materials to avoid : Do not store with the following product types:  
Strong oxidizing agents

### Section 8: Exposure controls/personal protection

#### Control parameters

#### Occupational Exposure Limits

| Components             | CAS-No.    | Value type<br>(Form of exposure) | Control parameters / Permissible concentration | Basis    |
|------------------------|------------|----------------------------------|------------------------------------------------|----------|
| Kanamycin acid sulfate | 64013-70-3 | TWA                              | 100 µg/m <sup>3</sup> (OEB)                    | Internal |

## Kanamycin Acid Sulfate Formulation

Version 2.2      Revision Date: 06.04.2024      SDS Number: 11272792-00005      Date of last issue: 15.12.2023  
 Date of first issue: 18.09.2023

|        |          |                 |                               |        |
|--------|----------|-----------------|-------------------------------|--------|
|        |          |                 | 2)                            |        |
| Phenol | 108-95-2 | PEL (long term) | 5 ppm<br>19 mg/m <sup>3</sup> | SG OEL |
|        |          | TWA             | 5 ppm                         | ACGIH  |

## Biological occupational exposure limits

| Components | CAS-No.  | Control parameters | Biological specimen | Sampling time                                            | Permissible concentration | Basis     |
|------------|----------|--------------------|---------------------|----------------------------------------------------------|---------------------------|-----------|
| Phenol     | 108-95-2 | Phenol             | Urine               | End of shift (As soon as possible after exposure ceases) | 250 mg/g creatinine       | ACGIH BEI |

**Appropriate engineering control measures** : Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., drip-less quick connections).  
 All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment.  
 Laboratory operations do not require special containment.

## Individual protection measures, such as personal protective equipment (PPE)

**Eye/face protection** : Wear safety glasses with side shields or goggles.  
 If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles.  
 Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols.

**Skin protection** : Work uniform or laboratory coat.

**Respiratory protection** : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

**Filter type** : Particulates type

**Hand protection**

**Material** : Chemical-resistant gloves

## Section 9: Physical and chemical properties

**Appearance** : liquid

**Colour** : colourless

**Odour** : characteristic

**Odour Threshold** : No data available

**pH** : 3.5 - 5.5

**Kanamycin Acid Sulfate Formulation**

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 15.12.2023  |
| 2.2     | 06.04.2024     | 11272792-00005 | Date of first issue: 18.09.2023 |

---

|                                                  |   |                                                          |
|--------------------------------------------------|---|----------------------------------------------------------|
| Melting point/freezing point                     | : | No data available                                        |
| Initial boiling point and boiling range          | : | No data available                                        |
| Flash point                                      | : | No data available                                        |
| Evaporation rate                                 | : | No data available                                        |
| Flammability (solid, gas)                        | : | Not applicable                                           |
| Flammability (liquids)                           | : | No data available                                        |
| Upper explosion limit / Upper flammability limit | : | No data available                                        |
| Lower explosion limit / Lower flammability limit | : | No data available                                        |
| Vapour pressure                                  | : | No data available                                        |
| Relative vapour density                          | : | No data available                                        |
| Relative density                                 | : | No data available                                        |
| Density                                          | : | 1.05 - 1.10 g/cm <sup>3</sup>                            |
| Solubility(ies)                                  |   |                                                          |
| Water solubility                                 | : | soluble                                                  |
| Partition coefficient: n-octanol/water           | : | Not applicable                                           |
| Auto-ignition temperature                        | : | No data available                                        |
| Decomposition temperature                        | : | No data available                                        |
| Viscosity                                        |   |                                                          |
| Viscosity, kinematic                             | : | No data available                                        |
| Explosive properties                             | : | Not explosive                                            |
| Oxidizing properties                             | : | The substance or mixture is not classified as oxidizing. |
| Molecular weight                                 | : | No data available                                        |
| Particle characteristics                         |   |                                                          |
| Particle size                                    | : | Not applicable                                           |

---

**Section 10: Stability and reactivity**

**Kanamycin Acid Sulfate Formulation**

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 15.12.2023  |
| 2.2     | 06.04.2024     | 11272792-00005 | Date of first issue: 18.09.2023 |

---

|                                    |   |                                                |
|------------------------------------|---|------------------------------------------------|
| Reactivity                         | : | Not classified as a reactivity hazard.         |
| Chemical stability                 | : | Stable under normal conditions.                |
| Possibility of hazardous reactions | : | Can react with strong oxidizing agents.        |
| Conditions to avoid                | : | None known.                                    |
| Incompatible materials             | : | Oxidizing agents                               |
| Hazardous decomposition products   | : | No hazardous decomposition products are known. |

---

**Section 11: Toxicological information**

Information on likely routes of exposure :

- Inhalation
- Skin contact
- Ingestion
- Eye contact

**Acute toxicity**

Not classified based on available information.

**Product:**

|                           |   |                                                                                                                     |
|---------------------------|---|---------------------------------------------------------------------------------------------------------------------|
| Acute oral toxicity       | : | Acute toxicity estimate: > 2,000 mg/kg<br>Method: Calculation method                                                |
| Acute inhalation toxicity | : | Acute toxicity estimate: > 5 mg/l<br>Exposure time: 4 h<br>Test atmosphere: dust/mist<br>Method: Calculation method |
| Acute dermal toxicity     | : | Acute toxicity estimate: > 2,000 mg/kg<br>Method: Calculation method                                                |

**Components:****Kanamycin acid sulfate:**

|                     |   |                                                                                                 |
|---------------------|---|-------------------------------------------------------------------------------------------------|
| Acute oral toxicity | : | LD50 (Rat): > 4,000 mg/kg<br><br>LD50 (Mouse): 12,000 mg/kg<br><br>LD50 (Rabbit): > 3,000 mg/kg |
|---------------------|---|-------------------------------------------------------------------------------------------------|

**Phenol:**

|                           |   |                                                                                                                                               |
|---------------------------|---|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Acute oral toxicity       | : | LD50 (Rat): 650 mg/kg<br>Method: OECD Test Guideline 401<br><br>Acute toxicity estimate (Humans): 140 - 290 mg/kg<br>Method: Expert judgement |
| Acute inhalation toxicity | : | LC0 (Rat): 0.9 mg/l<br>Exposure time: 8 h<br>Test atmosphere: dust/mist<br>Assessment: Corrosive to the respiratory tract.                    |

**Kanamycin Acid Sulfate Formulation**

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 15.12.2023  |
| 2.2     | 06.04.2024     | 11272792-00005 | Date of first issue: 18.09.2023 |

---

Acute toxicity estimate (Humans): > 0.9 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: Expert judgement

Acute dermal toxicity : LD50 (Rabbit): 660 mg/kg  
Method: OECD Test Guideline 402

Acute toxicity estimate (Humans): 300 mg/kg  
Method: Expert judgement

**Skin corrosion/irritation**

Not classified based on available information.

**Components:****Kanamycin acid sulfate:**

Remarks : No data available

**Phenol:**

Species : Rabbit  
Result : Corrosive after 3 minutes to 1 hour of exposure

**Serious eye damage/eye irritation**

Not classified based on available information.

**Components:****Kanamycin acid sulfate:**

Remarks : No data available

**Phenol:**

Species : Rabbit  
Result : Irreversible effects on the eye  
Method : OECD Test Guideline 405

**Respiratory or skin sensitisation****Skin sensitisation**

Not classified based on available information.

**Respiratory sensitisation**

Not classified based on available information.

**Components:****Kanamycin acid sulfate:**

Test Type : Maximisation Test  
Species : Guinea pig  
Assessment : Did not cause sensitisation on laboratory animals.

**Kanamycin Acid Sulfate Formulation**

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 15.12.2023  |
| 2.2     | 06.04.2024     | 11272792-00005 | Date of first issue: 18.09.2023 |

---

Result : negative

**Phenol:**

Test Type : Buehler Test  
Exposure routes : Skin contact  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : negative

**Germ cell mutagenicity**

Not classified based on available information.

**Components:****Kanamycin acid sulfate:**

Genotoxicity in vitro : Test Type: Ames test  
Result: negative

Test Type: mitotic recombination assay  
Test system: Escherichia coli  
Result: negative

Test Type: DNA Repair  
Test system: Escherichia coli  
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test  
Species: Mouse  
Cell type: Bone marrow  
Result: negative

**Phenol:**

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro  
Method: OECD Test Guideline 473  
Result: positive

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Mouse  
Application Route: Intraperitoneal injection  
Method: OECD Test Guideline 474  
Result: positive  
Remarks: Annex VI From 1272/2008

Germ cell mutagenicity - Assessment : Positive result(s) from in vivo mammalian somatic cell mutagenicity tests.

**Carcinogenicity**

Not classified based on available information.

**Kanamycin Acid Sulfate Formulation**

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 15.12.2023  |
| 2.2     | 06.04.2024     | 11272792-00005 | Date of first issue: 18.09.2023 |

---

**Components:****Phenol:**

|                   |   |                         |
|-------------------|---|-------------------------|
| Species           | : | Mouse                   |
| Application Route | : | Ingestion               |
| Exposure time     | : | 103 weeks               |
| Method            | : | OECD Test Guideline 451 |
| Result            | : | negative                |

**Reproductive toxicity**

Not classified based on available information.

**Components:****Kanamycin acid sulfate:**

|                               |   |                                                                                                                                                                                                                                                                           |
|-------------------------------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Effects on foetal development | : | Test Type: Embryo-foetal development<br>Species: Rat<br>Application Route: Intravenous injection<br>Developmental Toxicity: 100 mg/kg body weight<br>Symptoms: No adverse effects                                                                                         |
|                               |   | Test Type: reproductive and developmental toxicity study<br>Application Route: Intravenous injection<br>Developmental Toxicity: NOAEL: 400 mg/kg body weight<br>Symptoms: No adverse effects<br>Target Organs: Auditory system<br>Result: Post-natal toxicity             |
|                               |   | Test Type: Reproduction/Developmental toxicity screening test<br>Species: Guinea pig<br>Application Route: Intramuscular<br>Developmental Toxicity: NOAEL: > 100 mg/kg body weight<br>Target Organs: Auditory system<br>Remarks: Significant toxicity observed in testing |

**Phenol:**

|                               |   |                                                                                                                                                              |
|-------------------------------|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Effects on fertility          | : | Test Type: Two-generation reproduction toxicity study<br>Species: Rat<br>Application Route: Ingestion<br>Method: OECD Test Guideline 416<br>Result: negative |
| Effects on foetal development | : | Test Type: Embryo-foetal development<br>Species: Mouse<br>Application Route: Ingestion<br>Method: OECD Test Guideline 414<br>Result: negative                |

**STOT - single exposure**

Not classified based on available information.

**Kanamycin Acid Sulfate Formulation**

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 15.12.2023  |
| 2.2     | 06.04.2024     | 11272792-00005 | Date of first issue: 18.09.2023 |

---

**STOT - repeated exposure**

Causes damage to organs (Auditory system) through prolonged or repeated exposure if swallowed.

**Components:****Kanamycin acid sulfate:**

|                 |                                                                   |
|-----------------|-------------------------------------------------------------------|
| Exposure routes | : Oral                                                            |
| Target Organs   | : Auditory system                                                 |
| Assessment      | : Causes damage to organs through prolonged or repeated exposure. |

**Phenol:**

|               |                                                                      |
|---------------|----------------------------------------------------------------------|
| Target Organs | : Central nervous system, Kidney, Liver, Skin                        |
| Assessment    | : May cause damage to organs through prolonged or repeated exposure. |

**Repeated dose toxicity****Components:****Kanamycin acid sulfate:**

|                   |                                            |
|-------------------|--------------------------------------------|
| Species           | : Rat                                      |
| LOAEL             | : TDLo = 12000 mg/kg                       |
| Application Route | : Intraperitoneal                          |
| Exposure time     | : 30 d                                     |
| Target Organs     | : Kidney, Ureter, Bladder                  |
| Remarks           | : Significant toxicity observed in testing |

|                   |                                                        |
|-------------------|--------------------------------------------------------|
| Species           | : Dog                                                  |
| LOAEL             | : TDLo= 6500 mg/kg                                     |
| Application Route | : Subcutaneous                                         |
| Exposure time     | : 17 d                                                 |
| Target Organs     | : Auditory system, Eye, Kidney, olfactory sense organs |
| Remarks           | : Significant toxicity observed in testing             |

|                   |                                            |
|-------------------|--------------------------------------------|
| Species           | : Guinea pig                               |
| NOAEL             | : 100 mg/kg                                |
| LOAEL             | : > 200 mg/kg                              |
| Application Route | : Intramuscular                            |
| Exposure time     | : 4 Weeks                                  |
| Target Organs     | : Auditory system                          |
| Remarks           | : Significant toxicity observed in testing |

|                   |                                            |
|-------------------|--------------------------------------------|
| Species           | : Rabbit, male                             |
| LOAEL             | : > 50 mg/kg                               |
| Application Route | : Intramuscular                            |
| Exposure time     | : 30 d                                     |
| Target Organs     | : Auditory system, Kidney                  |
| Remarks           | : Significant toxicity observed in testing |

**Kanamycin Acid Sulfate Formulation**

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 15.12.2023  |
| 2.2     | 06.04.2024     | 11272792-00005 | Date of first issue: 18.09.2023 |

---

**Phenol:**

|                   |                           |
|-------------------|---------------------------|
| Species           | : Rat                     |
| LOAEL             | : 300 mg/kg               |
| Application Route | : Ingestion               |
| Exposure time     | : 90 Days                 |
| Method            | : OECD Test Guideline 408 |

|                   |                       |
|-------------------|-----------------------|
| Species           | : Rat                 |
| NOAEL             | : $\geq 0.1$ mg/l     |
| Application Route | : inhalation (vapour) |
| Exposure time     | : 74 Days             |

|                   |                |
|-------------------|----------------|
| Species           | : Rabbit       |
| LOAEL             | : 260 mg/kg    |
| Application Route | : Skin contact |
| Exposure time     | : 18 Days      |

**Aspiration toxicity**

Not classified based on available information.

**Experience with human exposure****Components:****Kanamycin acid sulfate:**

|                     |                                                                                                                                                                                                          |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General Information | : Target Organs: Auditory system<br>Symptoms: Abdominal pain, altered taste, Dizziness<br>Remarks: The most common side effects are:<br>Target Organs: Kidney<br>Symptoms: Vomiting, skin rash, numbness |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

---

**Section 12: Ecological information****Toxicity****Components:****Kanamycin acid sulfate:**

|                  |                                                                                                                      |
|------------------|----------------------------------------------------------------------------------------------------------------------|
| Toxicity to fish | : LC50 (Oncorhynchus mykiss (rainbow trout)): $> 100$ mg/l<br>Exposure time: 96 h<br>Method: OECD Test Guideline 203 |
|------------------|----------------------------------------------------------------------------------------------------------------------|

|                                                     |                                                                                                             |
|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Toxicity to daphnia and other aquatic invertebrates | : EC50 (Daphnia magna (Water flea)): $> 100$ mg/l<br>Exposure time: 48 h<br>Method: OECD Test Guideline 202 |
|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------|

|                                  |                                                                                                                               |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Toxicity to algae/aquatic plants | : EC50 (Pseudokirchneriella subcapitata (green algae)): $0.74$ mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201 |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------|

NOEC (Pseudokirchneriella subcapitata (green algae)):  $0.31$

**Kanamycin Acid Sulfate Formulation**

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 15.12.2023  |
| 2.2     | 06.04.2024     | 11272792-00005 | Date of first issue: 18.09.2023 |

---

mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

EC50 (blue-green algae): 0.03 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

NOEC (blue-green algae): 0.01 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : 10  
Toxicity to microorganisms : EC50: > 461 mg/l  
Exposure time: 3 h  
Test Type: Respiration inhibition  
Method: OECD Test Guideline 209  
  
NOEC: 4.9 mg/l  
Exposure time: 3 h  
Test Type: Respiration inhibition  
Method: OECD Test Guideline 209

**Ecotoxicology Assessment**

Acute aquatic toxicity : Very toxic to aquatic organisms.  
Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

**Phenol:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 24.9 mg/l  
Exposure time: 96 h  
  
Toxicity to daphnia and other aquatic invertebrates : EC50 (Ceriodaphnia dubia (water flea)): 3.1 mg/l  
Exposure time: 48 h  
  
Toxicity to algae/aquatic plants : EC50 (Selenastrum capricornutum (green algae)): 61.1 mg/l  
Exposure time: 96 h  
  
Toxicity to fish (Chronic toxicity) : NOEC: 0.077 mg/l  
Exposure time: 60 d  
  
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 10 mg/l  
Exposure time: 16 d  
Toxicity to microorganisms : IC50 (Nitrosomonas sp.): 21 mg/l  
Exposure time: 24 h

**Kanamycin Acid Sulfate Formulation**

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 15.12.2023  |
| 2.2     | 06.04.2024     | 11272792-00005 | Date of first issue: 18.09.2023 |

---

**Persistence and degradability****Components:****Kanamycin acid sulfate:**

Biodegradability : Result: Not readily biodegradable.  
Biodegradation: 0 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B

**Phenol:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 62 %  
Exposure time: 10 d  
Method: OECD Test Guideline 301C

**Bioaccumulative potential****Components:****Phenol:**

Bioaccumulation : Species: Fish  
Bioconcentration factor (BCF): 17.5  
Method: OECD Test Guideline 305

Partition coefficient: n-octanol/water : log Pow: 1.47

**Mobility in soil**

No data available

**Other adverse effects**

No data available

---

**Section 13: Disposal considerations****Disposal methods**

Waste from residues : Do not dispose of waste into sewer.  
Dispose of in accordance with local regulations.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.  
If not otherwise specified: Dispose of as unused product.

---

**Section 14: Transport information****International Regulations****UNRTDG**

UN number : UN 3082  
UN proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

**Kanamycin Acid Sulfate Formulation**

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 15.12.2023  |
| 2.2     | 06.04.2024     | 11272792-00005 | Date of first issue: 18.09.2023 |

---

(Kanamycin acid sulfate)

Transport hazard class(es) : 9  
Packing group : III  
Labels : 9  
Environmental hazards : yes

**IATA-DGR**

UN/ID No. : UN 3082  
UN proper shipping name : Environmentally hazardous substance, liquid, n.o.s.  
(Kanamycin acid sulfate)

Transport hazard class(es) : 9  
Packing group : III  
Labels : Miscellaneous  
Packing instruction (cargo aircraft) : 964  
Packing instruction (passenger aircraft) : 964  
Environmentally hazardous : yes

**IMDG-Code**

UN number : UN 3082  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Kanamycin acid sulfate)

Transport hazard class(es) : 9  
Packing group : III  
Labels : 9  
EmS Code : F-A, S-F  
Marine pollutant : yes

**Transport in bulk according to IMO instruments**

Not applicable for product as supplied.

**Special precautions for user**

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

---

**Section 15: Regulatory information****Safety, health and environmental regulations specific for the product in question**

Workplace Safety and Health Act and Workplace Safety and Health (General Provisions) Regulations: This product is subjected to the SDS, labelling, PEL and other requirements in the Act/Regulations.

Environmental Protection and Management Act and : Not applicable  
Environmental Protection and Management (Hazardous Substances) Regulations

Fire Safety (Petroleum and Flammable Materials) : Not applicable  
Regulations

**Kanamycin Acid Sulfate Formulation**

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 15.12.2023  |
| 2.2     | 06.04.2024     | 11272792-00005 | Date of first issue: 18.09.2023 |

**The components of this product are reported in the following inventories:**

|       |   |                |
|-------|---|----------------|
| AICS  | : | not determined |
| DSL   | : | not determined |
| IECSC | : | not determined |

**Section 16: Other information**

Revision Date : 06.04.2024

**Further information**

Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Date format : dd.mm.yyyy

**Full text of other abbreviations**

|           |   |                                                                                                                                           |
|-----------|---|-------------------------------------------------------------------------------------------------------------------------------------------|
| ACGIH     | : | USA. ACGIH Threshold Limit Values (TLV)                                                                                                   |
| ACGIH BEI | : | ACGIH - Biological Exposure Indices (BEI)                                                                                                 |
| SG OEL    | : | Singapore. Workplace Safety and Health (General Provisions) Regulations - First Schedule Permissible Exposure Limits of Toxic Substances. |

ACGIH / TWA : 8-hour, time-weighted average

SG OEL / PEL (long term) : Permissible Exposure Level (PEL) Long Term

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation,

**Kanamycin Acid Sulfate Formulation**

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 15.12.2023  |
| 2.2     | 06.04.2024     | 11272792-00005 | Date of first issue: 18.09.2023 |

---

tion, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

SG / EN