

**Benzylpenicillin / Neomycin Formulation**

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 24.02.2025  |
| 2.0     | 14.04.2025     | 11119508-00006 | Date of first issue: 07.12.2022 |

**SECTION 1. IDENTIFICATION**

Product name : Benzylpenicillin / Neomycin Formulation

**Manufacturer or supplier's details**

Company : MSD

Address : Talcahuano 750, 6th floor, Ciudad Autonoma  
Buenos Aires, Argentina C1013AAP

Telephone : 908-740-4000

Emergency telephone : 1-908-423-6000

E-mail address : EHSDATASTEWARD@msd.com

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

Recommended use : Veterinary product

Restrictions on use : Not applicable

**SECTION 2. HAZARDS IDENTIFICATION****GHS Classification**

Respiratory sensitization : Category 1

Skin sensitization : Category 1

Reproductive toxicity : Category 2

Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 1

**GHS label elements**

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H317 May cause an allergic skin reaction.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H361d Suspected of damaging the unborn child.  
H410 Very toxic to aquatic life with long lasting effects.

**Benzylpenicillin / Neomycin Formulation**

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 24.02.2025  |
| 2.0     | 14.04.2025     | 11119508-00006 | Date of first issue: 07.12.2022 |

## Precautionary Statements

: **Prevention:**

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P261 Avoid breathing vapors.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P284 Wear respiratory protection.

**Response:**

P302 + P352 IF ON SKIN: Wash with plenty of water.  
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.  
P362 + P364 Take off contaminated clothing and wash it before reuse.  
P391 Collect spillage.

**Storage:**

P405 Store locked up.

**Disposal:**

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

**Additional Labeling**

The following percentage of the mixture consists of ingredient(s) with unknown hazards to the aquatic environment: 2,5 %

**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) |
|-------------------------------|-----------|-----------------------|
| White mineral oil (petroleum) | 8042-47-5 | >= 70 -< 90           |
| Benzylpenicillin              | 61-33-6   | >= 10 -< 20           |
| Neomycin, sulfate (salt)      | 1405-10-3 | >= 5 -< 10            |
| Aluminum tristearate          | 637-12-7  | >= 1 -< 5             |

**SECTION 4. FIRST AID MEASURES**

## Benzylpenicillin / Neomycin Formulation

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 24.02.2025  |
| 2.0     | 14.04.2025     | 11119508-00006 | Date of first issue: 07.12.2022 |

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- |   |   |   |
|---|---|---|
| General advice  | : | In the case of accident or if you feel unwell, seek medical advice immediately.<br>When symptoms persist or in all cases of doubt seek medical advice.  |
| If inhaled  | : | If inhaled, remove to fresh air.<br>If not breathing, give artificial respiration.<br>If breathing is difficult, give oxygen.<br>Get medical attention.   |
| In case of skin contact                                     | : | In case of contact, immediately flush skin with soap and plenty of water.<br>Remove contaminated clothing and shoes.<br>Get medical attention.<br>Wash clothing before reuse.<br>Thoroughly clean shoes before reuse.   |
| In case of eye contact                                      | : | Flush eyes with water as a precaution.<br>Get medical attention if irritation develops and persists.  |
| If swallowed  | : | If swallowed, DO NOT induce vomiting.<br>Get medical attention.<br>Rinse mouth thoroughly with water.   |
| Most important symptoms and effects, both acute and delayed | : | Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).<br>May cause an allergic skin reaction.<br>May cause allergy or asthma symptoms or breathing difficulties if inhaled.<br>Suspected of damaging the unborn child. |
| 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).   |
| Notes to physician  | : | Treat symptomatically and supportively.   |
- 

**SECTION 5. FIRE-FIGHTING MEASURES**

- |                                       |   |   |
|---------------------------------------|---|---|
| Suitable extinguishing media          | : | Water spray<br>Alcohol-resistant foam<br>Carbon dioxide (CO <sub>2</sub> )<br>Dry chemical  |
| Unsuitable extinguishing media        | : | None known.   |
| Specific hazards during fire fighting | : | Exposure to combustion products may be a hazard to health.  |
| Hazardous combustion products         | : | Carbon oxides<br>Metal oxides   |
| Specific extinguishing methods        | : | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.<br>Use water spray to cool unopened containers.<br>Remove undamaged containers from fire area if it is safe to do so.<br>Evacuate area. |
| Special protective equipment          | : | In the event of fire, wear self-contained breathing apparatus.  |

**Benzylpenicillin / Neomycin Formulation**

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 24.02.2025  |
| 2.0     | 14.04.2025     | 11119508-00006 | Date of first issue: 07.12.2022 |

for fire-fighters

Use personal protective equipment.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).
- 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 : Soak up with inert absorbent material.  
For large spills, provide diking or other appropriate containment to keep material from spreading. If diked 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 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**

- 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 get on skin or clothing.  
Do not breathe vapors.  
Do not swallow.  
Avoid contact with eyes.  
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment  
Keep container tightly closed.  
Already sensitized individuals, and those susceptible to asthma, allergies, chronic or recurrent respiratory disease, should consult their physician regarding working with respiratory irritants or sensitizers.  
Take care to prevent spills, waste and minimize release to the environment.
- Conditions for safe storage : Keep in properly labeled containers.  
Store locked up.  
Keep tightly closed.

## Benzylpenicillin / Neomycin Formulation

Version 2.0      Revision Date: 14.04.2025      SDS Number: 11119508-00006      Date of last issue: 24.02.2025  
 Date of first issue: 07.12.2022

Materials to avoid : Store in accordance with the particular national regulations.  
 : Do not store with the following product types:  
 Strong oxidizing agents  
 Gases

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

## Ingredients with workplace control parameters

| Components                    | CAS-No.  | Value type (Form of exposure)       | Control parameters / Permissible concentration | Basis    |
|-------------------------------|--|-------------------------------------|--|----------|
| White mineral oil (petroleum) | 8042-47-5  | CMP (Mist)                          | 5 mg/m <sup>3</sup>                            | AR OEL   |
|                               |  | CMP - CPT (Mist)                    | 10 mg/m <sup>3</sup>                           | AR OEL   |
|                               |  | TWA (Inhalable particulate matter)  | 5 mg/m <sup>3</sup>                            | ACGIH    |
| Benzylpenicillin              | 61-33-6  | TWA                                 | 600 µg/m <sup>3</sup> (OEB 2)                  | Internal |
|                               | Further information: RSEN, DSEN                                  |                                     |  |          |
|                               |  | Wipe limit                          | 100 µg/100 cm <sup>2</sup>                     | Internal |
| Neomycin, sulfate (salt)      | 1405-10-3  | TWA                                 | 1.5 mg/m <sup>3</sup> (OEB 1)                  | Internal |
|                               | Further information: DSEN, OTO                                   |                                     |  |          |
|                               |  | Wipe limit                          | 0.1 mg/100 cm <sup>2</sup>                     | Internal |
| Aluminum tristearate          | 637-12-7   | CMP                                 | 10 mg/m <sup>3</sup>                           | AR OEL   |
|                               | Further information: A4 - Not classifiable as a human carcinogen |                                     |  |          |
|                               |  | TWA (Inhalable particulate matter)  | 10 mg/m <sup>3</sup>                           | ACGIH    |
|                               |  | TWA (Respirable particulate matter) | 3 mg/m <sup>3</sup>                            | ACGIH    |
|                               |  | TWA (Respirable particulate matter) | 1 mg/m <sup>3</sup> (Aluminum)                 | ACGIH    |

**Engineering 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.

**Personal protective equipment**

Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the

**Benzylpenicillin / Neomycin Formulation**

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 24.02.2025  |
| 2.0     | 14.04.2025     | 11119508-00006 | Date of first issue: 07.12.2022 |

|                          |  |
|--------------------------|--|
| Filter type              | : recommended guidelines, use respiratory protection.  |
| Hand protection          | : Combined particulates and organic vapor type   |
| Material                 | : Chemical-resistant gloves  |
| Eye protection           | : Wear safety glasses with side shields or goggles.<br>If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles.<br>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 and body protection | : Work uniform or laboratory coat.   |
| Hygiene measures         | : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.<br>When using do not eat, drink or smoke.<br>Contaminated work clothing should not be allowed out of the workplace.<br>Wash contaminated clothing before re-use.<br>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. |

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

|  |                     |
|--|---------------------|
| Appearance                                       | : cream             |
| Color  | : white             |
| Odor   | : No data available |
| Odor Threshold                                   | : No data available |
| pH   | : 7                 |
| 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 |

**Benzylpenicillin / Neomycin Formulation**

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
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| 2.0     | 14.04.2025     | 11119508-00006 | Date of first issue: 07.12.2022 |

---

|  |   |  |
|--|---|--|
| Vapor pressure                         | : | No data available  |
| Relative vapor density                 | : | No data available  |
| Relative density                       | : | No data available  |
| Density                                | : | 0,9 g/cm <sup>3</sup>                                    |
| Solubility(ies)                        |   |  |
| Water solubility                       | : | No data available  |
| Partition coefficient: n-octanol/water | : | Not applicable   |
| Autoignition 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   |

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**SECTION 10. STABILITY AND REACTIVITY**

|                                    |   |  |
|------------------------------------|---|--|
| 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. |

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**SECTION 11. TOXICOLOGICAL INFORMATION**

|  |   |  |
|--|---|--|
| Information on likely routes of exposure | : | Inhalation<br>Skin contact<br>Ingestion<br>Eye contact |
|--|---|--|

**Acute toxicity**

Not classified based on available information.

**Product:**

|                     |   |  |
|---------------------|---|--|
| Acute oral toxicity | : | Acute toxicity estimate: > 5.000 mg/kg |
|---------------------|---|--|

**Benzylpenicillin / Neomycin Formulation**

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
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| 2.0     | 14.04.2025     | 11119508-00006 | Date of first issue: 07.12.2022 |

Method: Calculation method

**Components:****White mineral oil (petroleum):**

|                           |   |   |
|---------------------------|---|---|
| Acute oral toxicity       | : | LD50 (Rat): > 5.000 mg/kg   |
| Acute inhalation toxicity | : | LC50 (Rat): > 5 mg/l<br>Exposure time: 4 h<br>Test atmosphere: dust/mist<br>Assessment: The substance or mixture has no acute inhalation toxicity |
| Acute dermal toxicity     | : | LD50 (Rabbit): > 2.000 mg/kg<br>Assessment: The substance or mixture has no acute dermal toxicity   |

**Benzylpenicillin:**

|   |   |  |
|---|---|--|
| Acute oral toxicity                             | : | LD50 (Rat): 8.000 mg/kg<br><br>LD50 (Mouse): > 5.000 mg/kg   |
| Acute toxicity (other routes of administration) | : | LD50 (Mouse): 3.500 mg/kg<br>Application Route: Intraperitoneal<br><br>LD50 (Mouse): 329 mg/kg<br>Application Route: Intravenous |

**Neomycin, sulfate (salt):**

|   |   |   |
|---|---|---|
| Acute oral toxicity                             | : | LD50 (Mouse): 2.880 mg/kg<br><br>LD50 (Rat): 2.750 mg/kg  |
| Acute toxicity (other routes of administration) | : | LD50 (Rat): 633 mg/kg<br>Application Route: Subcutaneous<br><br>LD50 (Mouse): 116 mg/kg<br>Application Route: Intraperitoneal<br><br>LD50 (Mouse): 27,6 mg/kg<br>Application Route: Intravenous<br><br>LD50 (Mouse): 275 mg/kg<br>Application Route: Subcutaneous |

**Aluminum tristearate:**

|                           |   |  |
|---------------------------|---|--|
| Acute oral toxicity       | : | LD50 (Rat, female): > 2.000 mg/kg<br>Remarks: Based on data from similar materials |
| Acute inhalation toxicity | : | LC50 (Rat): > 5,15 mg/l<br>Exposure time: 4 h<br>Test atmosphere: dust/mist        |



**Benzylpenicillin / Neomycin Formulation**

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 24.02.2025  |
| 2.0     | 14.04.2025     | 11119508-00006 | Date of first issue: 07.12.2022 |

---

Method: OECD Test Guideline 403  
Remarks: Based on data from similar materials

**Skin corrosion/irritation**

Not classified based on available information.

**Components:****White mineral oil (petroleum):**

|         |                      |
|---------|----------------------|
| Species | : Rabbit             |
| Result  | : No skin irritation |

**Neomycin, sulfate (salt):**

|         |                        |
|---------|------------------------|
| Species | : Rabbit               |
| Result  | : Mild skin irritation |

**Aluminum tristearate:**

|         |  |
|---------|--|
| Species | : reconstructed human epidermis (RhE)  |
| Method  | : OECD Test Guideline 439              |
| Remarks | : Based on data from similar materials |

|        |                      |
|--------|----------------------|
| Result | : No skin irritation |
|--------|----------------------|

**Serious eye damage/eye irritation**

Not classified based on available information.

**Components:****White mineral oil (petroleum):**

|         |                     |
|---------|---------------------|
| Species | : Rabbit            |
| Result  | : No eye irritation |

**Neomycin, sulfate (salt):**

|         |                     |
|---------|---------------------|
| Species | : Rabbit            |
| Result  | : No eye irritation |

**Aluminum tristearate:**

|         |  |
|---------|--|
| Species | : Rabbit                               |
| Result  | : No eye irritation                    |
| Method  | : OECD Test Guideline 405              |
| Remarks | : Based on data from similar materials |

**Respiratory or skin sensitization****Skin sensitization**

May cause an allergic skin reaction.

**Respiratory sensitization**

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

## Benzylpenicillin / Neomycin Formulation

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 24.02.2025  |
| 2.0     | 14.04.2025     | 11119508-00006 | Date of first issue: 07.12.2022 |

---

**Components:****White mineral oil (petroleum):**

|                    |                |
|--------------------|----------------|
| Test Type          | : Buehler Test |
| Routes of exposure | : Skin contact |
| Species            | : Guinea pig   |
| Result             | : negative     |

**Benzylpenicillin:**

|                    |                                 |
|--------------------|---------------------------------|
| Test Type          | : Local lymph node assay (LLNA) |
| Routes of exposure | : Dermal                        |
| Species            | : Mouse                         |
| Result             | : Weak sensitizer               |

|                    |  |
|--------------------|--|
| Test Type          | : Maximization Test                    |
| Routes of exposure | : Dermal                               |
| Species            | : Guinea pig                           |
| Result             | : positive                             |
| Remarks            | : Based on data from similar materials |

|         |                              |
|---------|------------------------------|
| Result  | : Strong sensitizer          |
| Remarks | : Based on human experience. |

**Neomycin, sulfate (salt):**

|                    |            |
|--------------------|------------|
| Routes of exposure | : Dermal   |
| Species            | : Humans   |
| Result             | : positive |

**Aluminum tristearate:**

|                    |  |
|--------------------|--|
| Test Type          | : Local lymph node assay (LLNA)        |
| Routes of exposure | : Skin contact                         |
| Species            | : Mouse                                |
| Method             | : OECD Test Guideline 429              |
| Result             | : negative                             |
| Remarks            | : Based on data from similar materials |

**Germ cell mutagenicity**

Not classified based on available information.

**Components:****White mineral oil (petroleum):**

|                       |  |
|-----------------------|--|
| Genotoxicity in vitro | : Test Type: In vitro mammalian cell gene mutation test<br>Result: negative  |
| Genotoxicity in vivo  | : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)<br>Species: Mouse<br>Application Route: Intraperitoneal injection<br>Method: OECD Test Guideline 474<br>Result: negative<br>Remarks: Based on data from similar materials |

## Benzylpenicillin / Neomycin Formulation

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 24.02.2025  |
| 2.0     | 14.04.2025     | 11119508-00006 | Date of first issue: 07.12.2022 |

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### **Benzylpenicillin:**

|| Germ cell mutagenicity - Assessment : Weight of evidence does not support classification as a germ cell mutagen.

### **Neomycin, sulfate (salt):**

|| Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Result: negative

Test Type: In vitro mammalian cell gene mutation test  
Test system: Chinese hamster ovary cells  
Result: negative

Test Type: Chromosomal aberration  
Test system: Human lymphocytes  
Result: positive

Test Type: in vitro micronucleus test  
Result: negative

|| Genotoxicity in vivo : Test Type: Cytogenetic assay  
Species: Mouse  
Cell type: Bone marrow  
Application Route: Intravenous injection  
Result: negative

### **Aluminum tristearate:**

|| Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test  
Method: OECD Test Guideline 476  
Result: negative  
Remarks: Based on data from similar materials

Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative  
Remarks: Based on data from similar materials

|| Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Rat  
Application Route: Ingestion  
Method: OECD Test Guideline 474  
Result: negative  
Remarks: Based on data from similar materials

### **Carcinogenicity**

Not classified based on available information.

### **Components:**

#### **White mineral oil (petroleum):**

|| Species : Rat

**Benzylpenicillin / Neomycin Formulation**

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 24.02.2025  |
| 2.0     | 14.04.2025     | 11119508-00006 | Date of first issue: 07.12.2022 |

|                   |             |
|-------------------|-------------|
| Application Route | : Ingestion |
| Exposure time     | : 24 Months |
| Result            | : negative  |

**Neomycin, sulfate (salt):**

|               |            |
|---------------|------------|
| Species       | : Rat      |
| Exposure time | : 2 Years  |
| Result        | : negative |

**Reproductive toxicity**

Suspected of damaging the unborn child.

**Components:****White mineral oil (petroleum):**

|                              |  |
|------------------------------|--|
| Effects on fertility         | : Test Type: One-generation reproduction toxicity study<br>Species: Rat<br>Application Route: Skin contact<br>Result: negative |
| Effects on fetal development | : Test Type: Embryo-fetal development<br>Species: Rat<br>Application Route: Ingestion<br>Result: negative                      |

**Benzylpenicillin:**

|                              |   |
|------------------------------|---|
| Effects on fertility         | : Test Type: Fertility<br>Species: Mouse<br>Result: No effects on fertility.<br><br>Test Type: Fertility<br>Species: Rat<br>Result: No effects on fertility.<br><br>Test Type: Fertility<br>Species: Rabbit<br>Result: No effects on fertility.                               |
| Effects on fetal development | : Test Type: Development<br>Species: Mouse<br>Result: No effects on fetal development.<br><br>Test Type: Development<br>Species: Rat<br>Result: No effects on fetal development.<br><br>Test Type: Development<br>Species: Rabbit<br>Result: No effects on fetal development. |

**Neomycin, sulfate (salt):**

|                      |   |
|----------------------|---|
| Effects on fertility | : Test Type: Three-generation reproduction toxicity study |
|----------------------|---|

## Benzylpenicillin / Neomycin Formulation

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 24.02.2025  |
| 2.0     | 14.04.2025     | 11119508-00006 | Date of first issue: 07.12.2022 |

|                                    |   |  |
|------------------------------------|---|--|
| Effects on fetal development       | : | Species: Rat<br>Application Route: Oral<br>General Toxicity Parent: NOAEL: 25 mg/kg body weight<br>Result: No effects on fertility and early embryonic development were detected.  |
| Reproductive toxicity - Assessment | : | Test Type: Embryo-fetal development<br>Species: Rat<br>Application Route: Oral<br>Embryo-fetal toxicity.: NOAEL: 275 mg/kg body weight<br>Result: No adverse effects., No teratogenic effects.<br><br>Test Type: Development<br>Species: Rat<br>Application Route: Subcutaneous<br>Developmental Toxicity: LOAEL: 6 mg/kg body weight<br>Result: positive<br><br>Some evidence of adverse effects on development, based on animal experiments. |

**Aluminum tristearate:**

|                              |   |   |
|------------------------------|---|---|
| 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<br>Remarks: Based on data from similar materials |
| Effects on fetal development | : | Test Type: Fertility/early embryonic development<br>Species: Rat<br>Application Route: Ingestion<br>Result: negative<br>Remarks: Based on data from similar materials   |

**STOT-single exposure**

Not classified based on available information.

**STOT-repeated exposure**

Not classified based on available information.

**Components:****Neomycin, sulfate (salt):**

|               |   |  |
|---------------|---|--|
| Target Organs | : | Kidney, inner ear  |
| Assessment    | : | May cause damage to organs through prolonged or repeated exposure. |
| Remarks       | : | Based on human experience.   |

**Repeated dose toxicity****Components:****White mineral oil (petroleum):**

## Benzylpenicillin / Neomycin Formulation

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
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| 2.0     | 14.04.2025     | 11119508-00006 | Date of first issue: 07.12.2022 |

|                   |             |
|-------------------|-------------|
| Species           | : Rat       |
| LOAEL             | : 160 mg/kg |
| Application Route | : Ingestion |
| Exposure time     | : 90 Days   |

|                   |                               |
|-------------------|-------------------------------|
| Species           | : Rat                         |
| LOAEL             | : >= 1 mg/l                   |
| Application Route | : inhalation (dust/mist/fume) |
| Exposure time     | : 4 Weeks                     |
| Method            | : OECD Test Guideline 412     |

**Neomycin, sulfate (salt):**

|                   |                |
|-------------------|----------------|
| Species           | : Mouse        |
| LOAEL             | : 30 mg/kg     |
| Application Route | : Subcutaneous |
| Exposure time     | : 14 d         |
| Target Organs     | : Kidney       |

|                   |                 |
|-------------------|-----------------|
| Species           | : Guinea pig    |
| NOAEL             | : 50 mg/kg      |
| LOAEL             | : 100 mg/kg     |
| Application Route | : Intramuscular |
| Exposure time     | : 30 - 60 Weeks |
| Target Organs     | : ear           |

|                   |  |
|-------------------|--|
| Species           | : Guinea pig                                   |
| NOAEL             | : 10 mg/kg                                     |
| Application Route | : Oral   |
| Exposure time     | : 90 d   |
| Remarks           | : No significant adverse effects were reported |

|                   |                |
|-------------------|----------------|
| Species           | : Guinea pig   |
| LOAEL             | : 100 mg/kg    |
| Application Route | : Subcutaneous |
| Exposure time     | : 34 d         |

|                   |                 |
|-------------------|-----------------|
| Species           | : Dog           |
| LOAEL             | : 24 mg/kg      |
| Application Route | : Intramuscular |
| Exposure time     | : 30 d          |
| Target Organs     | : Kidney        |

|                   |                      |
|-------------------|----------------------|
| Species           | : Rat                |
| LOAEL             | : 25 mg/kg           |
| Application Route | : oral (feed)        |
| Exposure time     | : 84 Weeks           |
| Target Organs     | : ear                |
| Symptoms          | : hearing loss       |
| Remarks           | : mortality observed |

|                   |                |
|-------------------|----------------|
| Species           | : Dog          |
| LOAEL             | : 20 mg/kg     |
| Application Route | : Subcutaneous |
| Exposure time     | : 90 d         |

## Benzylpenicillin / Neomycin Formulation

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 24.02.2025  |
| 2.0     | 14.04.2025     | 11119508-00006 | Date of first issue: 07.12.2022 |

|| Target Organs : Kidney

**Aluminum tristearate:**

|| Species : Rat  
 || NOAEL :  $\geq 5.000$  mg/kg  
 || Application Route : Ingestion  
 || Exposure time : 90 Days  
 || Remarks : Based on data from similar materials

**Aspiration toxicity**

Not classified based on available information.

**Experience with human exposure****Components:****Benzylpenicillin:**

|| Inhalation : Symptoms: Allergic reactions, Abdominal pain, bronchospasm, skin rash

**Neomycin, sulfate (salt):**

|| Skin contact : Symptoms: Sensitization  
 Remarks: May irritate skin.  
 || Eye contact : Remarks: May cause eye irritation.  
 || Ingestion : Symptoms: Nausea, Vomiting, Diarrhea, tinnitus, hearing loss, Loss of balance

**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity****Components:****White mineral oil (petroleum):**

|| Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)):  $> 100$  mg/l  
 Exposure time: 96 h  
 Method: OECD Test Guideline 203  
 || Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)):  $> 100$  mg/l  
 Exposure time: 48 h  
 Method: OECD Test Guideline 202  
 || Toxicity to algae/aquatic plants : NOEC (Pseudokirchneriella subcapitata (green algae)):  $100$  mg/l  
 Exposure time: 72 h  
 Method: OECD Test Guideline 201  
 || Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)):  $1.000$  mg/l  
 Exposure time: 28 d  
 || Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)):  $1.000$  mg/l  
 Exposure time: 21 d

**Benzylpenicillin:**

## Benzylpenicillin / Neomycin Formulation

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 24.02.2025  |
| 2.0     | 14.04.2025     | 11119508-00006 | Date of first issue: 07.12.2022 |

|   |   |
|---|---|
| Toxicity to fish                                    | : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l<br>Exposure time: 96 hrs<br>Method: OECD Test Guideline 203              |
| Toxicity to daphnia and other aquatic invertebrates | : EC50 (Daphnia magna (Water flea)): 3,6 mg/l<br>Exposure time: 48 hrs<br>Method: OECD Test Guideline 202                         |
| Toxicity to algae/aquatic plants                    | : EC50 (Raphidocelis subcapitata (freshwater green alga)): > 100 mg/l<br>Exposure time: 72 hrs<br>Method: OECD Test Guideline 201 |
|   | NOEC (Raphidocelis subcapitata (freshwater green alga)): 50 mg/l<br>Exposure time: 72 hrs<br>Method: OECD Test Guideline 201      |
|   | EC50 (blue-green algae): 0,74 mg/l<br>Exposure time: 72 hrs<br>Method: OECD Test Guideline 201                                    |
|   | NOEC (blue-green algae): 0,14 mg/l<br>Exposure time: 72 hrs<br>Method: OECD Test Guideline 201                                    |
| M-Factor (Acute aquatic toxicity)                   | : 1   |
| Toxicity to microorganisms                          | : EC50: > 500 mg/l<br>Exposure time: 3 h<br>Test Type: Respiration inhibition<br>Method: OECD Test Guideline 209                  |
|   | NOEC: 5 mg/l<br>Exposure time: 3 h<br>Test Type: Respiration inhibition<br>Method: OECD Test Guideline 209                        |

**Neomycin, sulfate (salt):**

|   |   |
|---|---|
| Toxicity to daphnia and other aquatic invertebrates | : EC50 (Daphnia magna (Water flea)): > 72 mg/l<br>Exposure time: 48 h<br>Method: OECD Test Guideline 202              |
|   | LC50 (Americamysis): 39 mg/l<br>Exposure time: 96 h<br>Method: US-EPA OPPTS 850.1035                                  |
| Toxicity to algae/aquatic plants                    | : EC50 (Anabaena flos-aquae (cyanobacterium)): 0,00075 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201 |
|   | NOEC (Anabaena flos-aquae (cyanobacterium)): 0,0003 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201    |



**Benzylpenicillin / Neomycin Formulation**

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 24.02.2025  |
| 2.0     | 14.04.2025     | 11119508-00006 | Date of first issue: 07.12.2022 |

EC50 (Pseudokirchneriella subcapitata (green algae)): 0,0099 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 0,0022 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : 1.000

M-Factor (Chronic aquatic toxicity) : 10

Toxicity to microorganisms : EC50 (Natural microorganism): 107,6 mg/l  
Exposure time: 3 h  
Test Type: Respiration inhibition  
Method: OECD Test Guideline 209

EC10 (Natural microorganism): 2,8 mg/l

Exposure time: 3 h

Test Type: Respiration inhibition

Method: OECD Test Guideline 209

**Aluminum tristearate:****Ecotoxicology Assessment**

Acute aquatic toxicity : Toxic effects cannot be excluded

Chronic aquatic toxicity : Toxic effects cannot be excluded

**Persistence and degradability****Components:****White mineral oil (petroleum):**

Biodegradability : Result: Not readily biodegradable.  
Biodegradation: 31 %  
Exposure time: 28 d

**Benzylpenicillin:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 70,10 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B

**Neomycin, sulfate (salt):**

Biodegradability : Result: rapidly degradable  
Biodegradation: 50 %  
Exposure time: 1,2 d  
Method: OECD Test Guideline 314

**Benzylpenicillin / Neomycin Formulation**

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 24.02.2025  |
| 2.0     | 14.04.2025     | 11119508-00006 | Date of first issue: 07.12.2022 |

**Bioaccumulative potential****Components:****Neomycin, sulfate (salt):**

Partition coefficient: n-octanol/water : log Pow: < -2

**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

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Neomycin, sulfate (salt), Benzylpenicillin)

Class : 9

Packing group : III

Labels : 9

Environmentally hazardous : yes

**IATA-DGR**

UN/ID No. : UN 3082

Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.  
(Neomycin, sulfate (salt), Benzylpenicillin)

Class : 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.  
(Neomycin, sulfate (salt), Benzylpenicillin)

Class : 9

**Benzylpenicillin / Neomycin Formulation**

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 24.02.2025  |
| 2.0     | 14.04.2025     | 11119508-00006 | Date of first issue: 07.12.2022 |

|                  |   |          |
|------------------|---|----------|
| Packing group    | : | III      |
| Labels           | : | 9        |
| EmS Code         | : | F-A, S-F |
| Marine pollutant | : | yes      |

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

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/legislation specific for the substance or mixture**

Argentina. Carcinogenic Substances and Agents Registry. : Not applicable

Control of precursors and essential chemicals for the preparation of drugs. : Not applicable

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

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

**SECTION 16. OTHER INFORMATION**

|               |   |            |
|---------------|---|------------|
| Revision Date | : | 14.04.2025 |
| Date format   | : | dd.mm.yyyy |

**Further information**

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

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

**Full text of other abbreviations**

|        |   |   |
|--------|---|---|
| ACGIH  | : | USA. ACGIH Threshold Limit Values (TLV) |
| AR OEL | : | Argentina. Occupational Exposure Limits |

|                    |   |                               |
|--------------------|---|-------------------------------|
| ACGIH / TWA        | : | 8-hour, time-weighted average |
| AR OEL / CMP       | : | TLV (Threshold Limit Value)   |
| AR OEL / CMP - CPT | : | STEL (Short Term Limit Value) |

**Benzylpenicillin / Neomycin Formulation**

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 24.02.2025  |
| 2.0     | 14.04.2025     | 11119508-00006 | Date of first issue: 07.12.2022 |

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, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECL - 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.

AR / Z8