

**Benzylpenicillin / Neomycin Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
3.0	14.04.2025	11119504-00007	Date of first issue: 07.12.2022

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**Section 1: Identification**

**Product identifier** : Benzylpenicillin / Neomycin 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

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**Section 2: Hazard identification****Classification of the substance or mixture**

Respiratory sensitisation : Category 1  
Skin sensitisation : Category 1  
Reproductive toxicity : Category 2  
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 : 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.

**Benzylpenicillin / Neomycin Formulation**

Version 3.0      Revision Date: 14.04.2025      SDS Number: 11119504-00007      Date of last issue: 24.02.2025  
Date of first issue: 07.12.2022

H410 Very toxic to aquatic life with long lasting effects.

**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 vapours.

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/ hearing 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 Labelling**

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	>= 3 -< 10
Aluminum tristearate	637-12-7	>= 1 -< 10

**Benzylpenicillin / Neomycin Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
3.0	14.04.2025	11119504-00007	Date of first issue: 07.12.2022

---

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**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.<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**

- |                            |   |   |
|----------------------------|---|---|
| Risks                      | : | 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).   |

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

- |           |   |   |
|-----------|---|---|
| Treatment | : | Treat symptomatically and supportively. |
|-----------|---|---|
- 

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

- |                                |   |  |
|--------------------------------|---|--|
| Suitable extinguishing media   | : | Water spray<br>Alcohol-resistant foam<br>Carbon dioxide (CO <sub>2</sub> )<br>Dry chemical |
| Unsuitable extinguishing media | : | None known.  |

**Benzylpenicillin / Neomycin Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
3.0	14.04.2025	11119504-00007	Date of first issue: 07.12.2022

---

**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  
Metal 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.

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**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 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.

**Benzylpenicillin / Neomycin Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
3.0	14.04.2025	11119504-00007	Date of first issue: 07.12.2022

**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 get on skin or clothing.  
Do not breathe vapours.  
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 sensitised individuals, and those susceptible to asthma, allergies, chronic or recurrent respiratory disease, should consult their physician regarding working with respiratory irritants or sensitisers.  
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.  
Contaminated work clothing should not be allowed out of the workplace.  
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 locked up.  
Keep tightly closed.  
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 (Form of exposure)	Control parameters / Permissible concentration	Basis
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## Benzylpenicillin / Neomycin Formulation

Version 3.0      Revision Date: 14.04.2025      SDS Number: 11119504-00007      Date of last issue: 24.02.2025  
 Date of first issue: 07.12.2022

White mineral oil (petroleum)	8042-47-5	PEL (long term) (Mist)	5 mg/m3	SG OEL
		PEL (short term) (Mist)	10 mg/m3	SG OEL
		TWA (Inhalable particulate matter)	5 mg/m3	ACGIH
Benzylpenicillin	61-33-6	TWA	600 µg/m3 (OEB 2)	Internal
Further information: RSEN, DSEN				
		Wipe limit	100 µg/100 cm2	Internal
Neomycin, sulfate (salt)	1405-10-3	TWA	1.5 mg/m3 (OEB 1)	Internal
Further information: DSEN, OTO				
		Wipe limit	0.1 mg/100 cm2	Internal
Aluminum tristearate	637-12-7	PEL (long term)	10 mg/m3	SG OEL
		TWA (Inhalable particulate matter)	10 mg/m3	ACGIH
		TWA (Respirable particulate matter)	3 mg/m3	ACGIH
		TWA (Respirable particulate matter)	1 mg/m3 (Aluminium)	ACGIH

**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** : Combined particulates and organic vapour type

**Hand protection**

**Material** : Chemical-resistant gloves

**Benzylpenicillin / Neomycin Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
3.0	14.04.2025	11119504-00007	Date of first issue: 07.12.2022

---

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**Section 9: Physical and chemical properties**

Appearance	:	cream
Colour	:	white
Odour	:	No data available
Odour 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
Vapour pressure	:	No data available
Relative vapour 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
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, kinematic	:	No data available

**Benzylpenicillin / Neomycin Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
3.0	14.04.2025	11119504-00007	Date of first issue: 07.12.2022

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**

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.

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

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 5 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity

**Benzylpenicillin:**

Acute oral toxicity : LD50 (Rat): 8,000 mg/kg  
LD50 (Mouse): > 5,000 mg/kg



**Benzylpenicillin / Neomycin Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
3.0	14.04.2025	11119504-00007	Date of first issue: 07.12.2022

---

Acute toxicity (other routes of administration) : LD50 (Mouse): 3,500 mg/kg  
Application Route: Intraperitoneal

LD50 (Mouse): 329 mg/kg  
Application Route: Intravenous

**Neomycin, sulfate (salt):**

Acute oral toxicity : LD50 (Mouse): 2,880 mg/kg

LD50 (Rat): 2,750 mg/kg

Acute toxicity (other routes of administration) : LD50 (Rat): 633 mg/kg  
Application Route: Subcutaneous

LD50 (Mouse): 116 mg/kg  
Application Route: Intraperitoneal

LD50 (Mouse): 27.6 mg/kg  
Application Route: Intravenous

LD50 (Mouse): 275 mg/kg  
Application Route: Subcutaneous

**Aluminum tristearate:**

Acute oral toxicity : LD50 (Rat, female): > 2,000 mg/kg  
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 5.15 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
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

**Benzylpenicillin / Neomycin Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
3.0	14.04.2025	11119504-00007	Date of first issue: 07.12.2022

---

||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 sensitisation****Skin sensitisation**

May cause an allergic skin reaction.

**Respiratory sensitisation**

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

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

||Test Type : Buehler Test  
||Exposure routes : Skin contact  
||Species : Guinea pig  
||Result : negative

**Benzylpenicillin:**

||Test Type : Local lymph node assay (LLNA)  
||Exposure routes : Dermal  
||Species : Mouse  
||Result : Weak sensitizer

||Test Type : Maximisation Test  
||Exposure routes : Dermal  
||Species : Guinea pig  
||Result : positive  
||Remarks : Based on data from similar materials

**Benzylpenicillin / Neomycin Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
3.0	14.04.2025	11119504-00007	Date of first issue: 07.12.2022

---

Result	: Strong sensitizer
Remarks	: Based on human experience.

**Neomycin, sulfate (salt):**

Exposure routes	: Dermal
Species	: Humans
Result	: positive

**Aluminum tristearate:**

Test Type	: Local lymph node assay (LLNA)
Exposure routes	: 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 Result: negative
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: negative Remarks: Based on data from similar materials

**Benzylpenicillin:**

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

**Benzylpenicillin / Neomycin Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
3.0	14.04.2025	11119504-00007	Date of first issue: 07.12.2022

---

Genotoxicity in vivo	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
Genotoxicity in vivo	Test Type: Bacterial reverse mutation assay (AMES)
	Method: OECD Test Guideline 471
	Result: negative
	Remarks: Based on data from similar materials
	: Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Genotoxicity in vivo	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
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.

**Benzylpenicillin / Neomycin Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
3.0	14.04.2025	11119504-00007	Date of first issue: 07.12.2022

---

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

Effects on fertility	:	Test Type: One-generation reproduction toxicity study Species: Rat Application Route: Skin contact Result: negative
Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rat Application Route: Ingestion Result: negative

**Benzylpenicillin:**

Effects on fertility	:	Test Type: Fertility Species: Mouse Result: No effects on fertility  Test Type: Fertility Species: Rat Result: No effects on fertility  Test Type: Fertility Species: Rabbit Result: No effects on fertility
Effects on foetal development	:	Test Type: Development Species: Mouse Result: No effects on foetal development  Test Type: Development Species: Rat Result: No effects on foetal development  Test Type: Development Species: Rabbit Result: No effects on foetal development

**Neomycin, sulfate (salt):**

Effects on fertility	:	Test Type: Three-generation reproduction toxicity study Species: Rat Application Route: Oral General Toxicity - Parent: NOAEL: 25 mg/kg body weight Result: No effects on fertility and early embryonic development were detected.
Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rat Application Route: Oral Embryo-foetal toxicity: NOAEL: 275 mg/kg body weight Result: No adverse effects, No teratogenic effects

**Benzylpenicillin / Neomycin Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
3.0	14.04.2025	11119504-00007	Date of first issue: 07.12.2022

	Test Type: Development
	Species: Rat
	Application Route: Subcutaneous
	Developmental Toxicity: LOAEL: 6 mg/kg body weight
	Result: positive
Reproductive toxicity - Assessment	: Some evidence of adverse effects on development, based on animal experiments.

**Aluminum tristearate:**

Effects on fertility	: Test Type: Two-generation reproduction toxicity study
	Species: Rat
	Application Route: Ingestion
	Method: OECD Test Guideline 416
	Result: negative
	Remarks: Based on data from similar materials
Effects on foetal development	: Test Type: Fertility/early embryonic development
	Species: Rat
	Application Route: Ingestion
	Result: negative
	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):**

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)

**Benzylpenicillin / Neomycin Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
3.0	14.04.2025	11119504-00007	Date of first issue: 07.12.2022

---

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  
Target Organs : Kidney

**Aluminum tristearate:**

Species : Rat  
NOAEL :  $\geq 5,000$  mg/kg

**Benzylpenicillin / Neomycin Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
3.0	14.04.2025	11119504-00007	Date of first issue: 07.12.2022

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
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**Neomycin, sulfate (salt):**

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

**Section 12: Ecological information****Toxicity****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:**

Toxicity to fish	: LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l Exposure time: 96 hrs Method: OECD Test Guideline 203
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**Benzylpenicillin / Neomycin Formulation**

Version	Revision Date:	SDS Number:	Date of last issue:
3.0	14.04.2025	11119504-00007	24.02.2025
			Date of first issue: 07.12.2022

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 3.6 mg/l Exposure time: 48 hrs Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Raphidocelis subcapitata (freshwater green alga)): > 100 mg/l Exposure time: 72 hrs Method: OECD Test Guideline 201  NOEC (Raphidocelis subcapitata (freshwater green alga)): 50 mg/l Exposure time: 72 hrs Method: OECD Test Guideline 201  EC50 (blue-green algae): 0.74 mg/l Exposure time: 72 hrs Method: OECD Test Guideline 201  NOEC (blue-green algae): 0.14 mg/l Exposure time: 72 hrs Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity)	:	1
Toxicity to microorganisms	:	EC50: > 500 mg/l Exposure time: 3 h Test Type: Respiration inhibition Method: OECD Test Guideline 209  NOEC: 5 mg/l Exposure time: 3 h Test Type: Respiration inhibition Method: OECD Test Guideline 209

**Neomycin, sulfate (salt):**

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 72 mg/l Exposure time: 48 h Method: OECD Test Guideline 202  LC50 (Americamysis): 39 mg/l Exposure time: 96 h Method: US-EPA OPPTS 850.1035
Toxicity to algae/aquatic plants	:	EC50 (Anabaena flos-aquae (cyanobacterium)): 0.00075 mg/l Exposure time: 72 h Method: OECD Test Guideline 201  NOEC (Anabaena flos-aquae (cyanobacterium)): 0.0003 mg/l Exposure time: 72 h Method: OECD Test Guideline 201

## Benzylpenicillin / Neomycin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
3.0	14.04.2025	11119504-00007	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

**Benzylpenicillin / Neomycin Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
3.0	14.04.2025	11119504-00007	Date of first issue: 07.12.2022

Method: OECD Test Guideline 314

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

Partition coefficient: n-octanol/water : log Pow: &lt; -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
UN proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Neomycin, sulfate (salt), Benzylpenicillin)
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. (Neomycin, sulfate (salt), Benzylpenicillin)
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**

**Benzylpenicillin / Neomycin Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
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UN number : UN 3082  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Neomycin, sulfate (salt), Benzylpenicillin)  
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.

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**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 subject to the 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

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

AICS : not determined  
DSL : not determined  
IECSC : not determined

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**Section 16: Other information**

Revision Date : 14.04.2025

**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/>

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

Date format : dd.mm.yyyy

**Full text of other abbreviations**

**Benzylpenicillin / Neomycin Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
3.0	14.04.2025	11119504-00007	Date of first issue: 07.12.2022

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ACGIH : USA. ACGIH Threshold Limit Values (TLV)  
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  
SG OEL / PEL (short term) : Permissible Exposure Level (PEL) Short 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, 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