

# Benzylpenicillin / Streptomycin Sulphate / Procaine Hydrochloride / Piroxicam Liquid Formulation

Version 6.6      Revision Date: 30.09.2023      SDS Number: 2449588-00022      Date of last issue: 04.04.2023  
Date of first issue: 13.02.2018

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## SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Benzylpenicillin / Streptomycin Sulphate / Procaine Hydrochloride / Piroxicam Liquid Formulation

### Manufacturer or supplier's details

Company : MSD

Address : Rua Coronel Bento Soares, 530  
Cruzeiro - Sao Paulo - Brazil CEP 12730-340

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

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## SECTION 2. HAZARDS IDENTIFICATION

### GHS Classification in accordance with ABNT NBR 14725 Standard

Acute toxicity (Oral) : Category 5

Eye irritation : Category 2B

Respiratory sensitization : Category 1

Skin sensitization : Category 1

Reproductive toxicity : Category 1A

Specific target organ toxicity - : Category 2 (Nervous system, Heart)  
single exposure

Specific target organ toxicity - : Category 1 (Kidney, inner ear)  
repeated exposure

Specific target organ toxicity - : Category 2 (Gastrointestinal tract)  
repeated exposure

Short-term (acute) aquatic : Category 1  
hazard

Long-term (chronic) aquatic : Category 1

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hazard

## GHS label elements in accordance with ABNT NBR 14725 Standard

Hazard pictograms



Signal Word

: Danger

Hazard Statements

: H303 May be harmful if swallowed.  
H317 May cause an allergic skin reaction.  
H320 Causes eye irritation.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H360D May damage the unborn child.  
H371 May cause damage to organs (Nervous system, Heart).  
H372 Causes damage to organs (Kidney, inner ear) through prolonged or repeated exposure.  
H373 May cause damage to organs (Gastrointestinal tract) through prolonged or repeated exposure.  
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements

: **Prevention:**  
P201 Obtain special instructions before use.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
**Response:**  
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.  
P391 Collect spillage.

## Additional Labeling

The following percentage of the mixture consists of ingredient(s) with unknown hazards to the aquatic environment: 3 %

## Other hazards which do not result in classification

None known.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

### Components

Chemical name	CAS-No.	Classification	Concentration (% w/w)
Benzylpenicillin	61-33-6	Respiratory sensitiza-	>= 10 -< 20

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		tion, Sub-category 1A Skin sensitization, Sub-category 1B Short-term (acute) aquatic hazard, Category 1 Long-term (chronic) aquatic hazard, Category 3	
Streptomycin sulphate	3810-74-0	Acute toxicity (Oral), Category 4 Eye irritation, Category 2B Skin sensitization, Sub-category 1B Reproductive toxicity, Category 1A Specific target organ toxicity - repeated exposure (Kidney, inner ear), Category 1 Short-term (acute) aquatic hazard, Category 1 Long-term (chronic) aquatic hazard, Category 1	$\geq 10$ -< 20
Procaine hydrochloride	51-05-8	Acute toxicity (Oral), Category 3 Eye irritation, Category 2B Skin sensitization, Category 1 Reproductive toxicity, Category 1A Specific target organ toxicity - single expo- sure (Nervous system, Heart), Category 1	$\geq 1$ -< 5
Piroxicam	36322-90-4	Acute toxicity (Oral), Category 3 Reproductive toxicity, Category 2 Specific target organ toxicity - repeated exposure (Gastroin- testinal tract), Catego- ry 1	$\geq 1$ -< 3

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## SECTION 4. 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                                      | : | In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.<br>If easy to do, remove contact lens, if worn.<br>Get medical attention.   |
| If swallowed  | : | If swallowed, DO NOT induce vomiting.<br>Get medical attention.<br>Rinse mouth thoroughly with water.<br>Never give anything by mouth to an unconscious person.  |
| Most important symptoms and effects, both acute and delayed | : | May be harmful if swallowed.<br>May cause an allergic skin reaction.<br>Causes eye irritation.<br>May cause allergy or asthma symptoms or breathing difficulties if inhaled.<br>May damage the unborn child.<br>May cause damage to organs.<br>Causes damage to organs through prolonged or repeated exposure.<br>Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome). |
| 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   | : | Exposure to combustion products may be a hazard to health.                                 |

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fighting  
Hazardous combustion products : Carbon oxides  
Nitrogen oxides (NO<sub>x</sub>)  
Sulfur oxides  
Oxides of phosphorus  
Metal oxides

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.

Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.  
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 : If sufficient ventilation is unavailable, use with local exhaust ventilation.

Advice on safe handling : Do not get on skin or clothing.  
Do not breathe mist or vapors.

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- Do not swallow.  
Do not get in eyes.  
Wash skin thoroughly after handling.  
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.  
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.  
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 : Keep in properly labeled 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  
Self-reactive substances and mixtures  
Organic peroxides  
Explosives  
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
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
Streptomycin sulphate	3810-74-0	TWA	OEB 2 (>= 100 < 1,000 µg/m <sup>3</sup> )	Internal
Further information: DSEN				

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Procaine hydrochloride	51-05-8	TWA	60 µg/m <sup>3</sup> (OEB 3)	Internal
		Wipe limit	600 µg/100 cm <sup>2</sup>	Internal
Piroxicam	36322-90-4	TWA	100 µg/m <sup>3</sup> (OEB 2)	Internal

**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 recommended guidelines, use respiratory protection.

Filter type : Particulates type

Hand protection : Chemical-resistant gloves

Eye 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 and body protection : Work uniform or laboratory coat.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Color : No data available

Odor : No data available

Odor Threshold : No data available

pH : No data available

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

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Flammability (liquids)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	No data available
Relative vapor density	:	No data available
Relative density	:	No data available
Density	:	No data available
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 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 : Inhalation



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exposure

Skin contact  
Ingestion  
Eye contact

### Acute toxicity

May be harmful if swallowed.

### Product:

Acute oral toxicity : Acute toxicity estimate: 2.447 mg/kg  
Method: Calculation method

### Components:

#### **Benzylpenicillin:**

Acute oral toxicity : LD50 (Rat): 8.000 mg/kg  
LD50 (Mouse): > 5.000 mg/kg

Acute toxicity (other routes of administration) : LD50 (Mouse): 3.500 mg/kg  
Application Route: Intraperitoneal

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

#### **Streptomycin sulphate:**

Acute oral toxicity : LD50 (Hamster): 400 mg/kg  
LD50 (Rat): 430 mg/kg  
LD50 (Mouse): 25.000 mg/kg

Acute toxicity (other routes of administration) : LD50 (Mouse): 85 - 111 mg/kg  
Application Route: Intravenous

LD50 (Mouse): 575 - 610 mg/kg  
Application Route: Intraperitoneal

LD50 (Mouse): 500 - 600 mg/kg  
Application Route: Subcutaneous

TDL<sub>o</sub> (Dog): 220 - 440 mg/kg  
Application Route: Intravenous  
Symptoms: Lowered blood pressure

LDL<sub>o</sub> (Monkey): 110 mg/kg  
Application Route: Intravenous

TDL<sub>o</sub> (Monkey): 30 - 70 mg/kg  
Application Route: Subcutaneous  
Symptoms: respiratory depression

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**Procaine hydrochloride:**

Acute oral toxicity : LD50 (Rat): 200 mg/kg  
LD50 (Mouse): 350 mg/kg

Acute toxicity (other routes of administration) : LD50 (Rat): 43 mg/kg  
Application Route: Intravenous  
LD50 (Mouse): 33 mg/kg  
Application Route: Intravenous  
LD50 (Dog): 33 mg/kg  
Application Route: Intravenous

**Piroxicam:**

Acute oral toxicity : LD50 (Rat): 216 mg/kg  
LD50 (Dog): 108 mg/kg  
LD50 (Hamster): 170 mg/kg  
LD50 (Guinea pig): 388 mg/kg  
LD50 (Monkey): 1.000 mg/kg

Acute dermal toxicity : LD50 (Rat): > 5.000 mg/kg

**Skin corrosion/irritation**

Not classified based on available information.

**Serious eye damage/eye irritation**

Causes eye irritation.

**Components:****Streptomycin sulphate:**

Result : Mild eye irritation

**Procaine hydrochloride:**

Result : Moderate eye irritation

**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.

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## Components:

### **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.

### **Streptomycin sulphate:**

Test Type : Human repeat insult patch test (HRIPT)  
 Routes of exposure : Dermal  
 Species : Humans  
 Result : Weak sensitizer

### **Procaine hydrochloride:**

Routes of exposure : Dermal  
 Result : Sensitizer  
 Remarks : Based on human experience.  
 Based on data from similar materials

### **Germ cell mutagenicity**

Not classified based on available information.

## Components:

### **Benzylpenicillin:**

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

### **Streptomycin sulphate:**

Genotoxicity in vitro : Test Type: Chromosomal aberration  
 Result: equivocal

Genotoxicity in vivo : Test Type: Chromosomal aberration  
 Cell type: Human lymphocytes  
 Result: negative

### **Procaine hydrochloride:**

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

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**Piroxicam:**

Genotoxicity in vivo : Test Type: sister chromatid exchange assay  
Species: Humans  
Cell type: Human lymphocytes  
Result: negative

**Carcinogenicity**

Not classified based on available information.

**Components:****Streptomycin sulphate:**

Species : Rat  
Application Route : Oral  
NOAEL : 5 mg/kg body weight  
Result : negative

Carcinogenicity - Assessment : Weight of evidence does not support classification as a carcinogen

**Reproductive toxicity**

May damage the unborn child.

**Components:****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 fetal development : Test Type: Development  
Species: Mouse  
Result: No effects on fetal development.

Test Type: Development  
Species: Rat  
Result: No effects on fetal development.

Test Type: Development  
Species: Rabbit  
Result: No effects on fetal development.

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**Streptomycin sulphate:**

Effects on fertility : Test Type: Fertility  
Species: Rat  
Application Route: Intraperitoneal  
Fertility: LOAEL: 40 mg/kg body weight  
Symptoms: male reproductive effects

Effects on fetal development : Test Type: Development  
Species: Mouse  
Application Route: Intraperitoneal  
Developmental Toxicity: LOAEL: 250 mg/kg body weight  
Symptoms: fetal deafness, Embryo-fetal toxicity.

Test Type: Development  
Species: Rabbit  
Application Route: Oral  
Developmental Toxicity: NOAEL: 10 mg/kg body weight  
Result: No teratogenic effects.

Reproductive toxicity - Assessment : May damage the unborn child.

**Procaine hydrochloride:**

Reproductive toxicity - Assessment : May damage the unborn child.

**Piroxicam:**

Effects on fetal development : Test Type: Development  
Species: Rat  
Application Route: Oral  
Developmental Toxicity: LOAEL: 10 mg/kg body weight  
Result: Embryo-fetal toxicity., No teratogenic effects., Fetal growth retardation

Test Type: Development  
Species: Rat  
Application Route: Oral  
Developmental Toxicity: LOAEL: 30 mg/kg body weight  
Symptoms: Fetal mortality.  
Result: Embryo-fetal toxicity., No teratogenic effects., Fetal growth retardation  
Remarks: Maternal toxicity observed.

Test Type: Development  
Species: Rat  
Application Route: Oral  
Developmental Toxicity: LOAEL: 0,4 - 4 mg/kg body weight  
Result: Effects on fetal development.

Test Type: Development  
Species: Rabbit  
Application Route: Oral  
Developmental Toxicity: NOAEL: 10 mg/kg body weight

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Result: No embryo-fetal toxicity.

Reproductive toxicity - Assessment : Suspected of damaging the unborn child.

### STOT-single exposure

May cause damage to organs (Nervous system, Heart).

#### Components:

##### Procaine hydrochloride:

Target Organs : Nervous system, Heart  
Assessment : Causes damage to organs.

### STOT-repeated exposure

Causes damage to organs (Kidney, inner ear) through prolonged or repeated exposure.  
May cause damage to organs (Gastrointestinal tract) through prolonged or repeated exposure.

#### Components:

##### Streptomycin sulphate:

Target Organs : Kidney, inner ear  
Assessment : Causes damage to organs through prolonged or repeated exposure.

##### Piroxicam:

Target Organs : Gastrointestinal tract  
Assessment : Causes damage to organs through prolonged or repeated exposure.

### Repeated dose toxicity

#### Components:

##### Streptomycin sulphate:

Species : Rat  
NOAEL : 100 mg/kg  
Application Route : Subcutaneous  
Exposure time : 72 Days  
Remarks : No significant adverse effects were reported

Species : Cat  
LOAEL : 200 mg/kg  
Application Route : Oral  
Exposure time : 90 Days  
Target Organs : inner ear

Species : Dog  
LOAEL : 44 mg/kg  
Application Route : Intramuscular  
Exposure time : 14 Days  
Target Organs : inner ear

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Species : Dog  
 LOAEL : 50 - 100 mg/kg  
 Application Route : Intramuscular  
 Exposure time : 20 Days  
 Target Organs : inner ear, Kidney  
 Symptoms : ataxia

Species : Monkey  
 NOAEL : 50 mg/kg  
 LOAEL : 100 mg/kg  
 Application Route : Intramuscular  
 Exposure time : 5 Days  
 Target Organs : Liver, Kidney

Species : Rat  
 NOAEL : 5 mg/kg  
 Application Route : Oral  
 Exposure time : 2 y  
 Remarks : No significant adverse effects were reported

Species : Monkey  
 LOAEL : 25 mg/kg  
 Application Route : Subcutaneous  
 Exposure time : 66 Days  
 Target Organs : Blood, Liver, Kidney  
 Symptoms : anemia

### Aspiration toxicity

Not classified based on available information.

### Experience with human exposure

#### Components:

#### **Benzylpenicillin:**

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

#### **Streptomycin sulphate:**

Inhalation : Target Organs: inner ear  
 Symptoms: hearing loss  
 Target Organs: Kidney  
 Symptoms: hearing loss  
 Skin contact : Symptoms: skin rash

#### **Procaine hydrochloride:**

Inhalation : Target Organs: Central nervous system  
 Symptoms: nervousness, Dizziness, Convulsions, Breathing difficulties, Rash, Swelling of tissue, irregular heart beat  
 Remarks: May cause harm to the unborn child.  
 Based on clinical use  
 Target Organs: Heart

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Symptoms: nervousness, Dizziness, Convulsions, Breathing difficulties, Rash, Swelling of tissue, irregular heart beat  
Remarks: May cause harm to the unborn child.  
Based on clinical use

**Piroxicam:**

Ingestion : Target Organs: Gastrointestinal tract  
Symptoms: Diarrhea, constipation, flatulence, Headache, Dizziness, tinnitus, skin rash, Ulceration, chest pain, Abdominal pain

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## SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity****Components:****Benzylpenicillin:**

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

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



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Exposure time: 3 h  
Test Type: Respiration inhibition  
Method: OECD Test Guideline 209

**Streptomycin sulphate:**

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 487 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Microcystis aeruginosa (blue-green algae)): 0,007 mg/l  
Exposure time: 72 h  
Method: ISO 8692

EC50 (Selenastrum capricornutum (green algae)): 0,133 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : 100

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 32 mg/l  
Exposure time: 21 d  
Method: OECD Test Guideline 211

M-Factor (Chronic aquatic toxicity) : 100

**Procaine hydrochloride:****Ecotoxicology Assessment**

Acute aquatic toxicity : Toxic effects cannot be excluded

Chronic aquatic toxicity : Toxic effects cannot be excluded

**Piroxicam:****Ecotoxicology Assessment**

Acute aquatic toxicity : Toxic effects cannot be excluded

Chronic aquatic toxicity : Toxic effects cannot be excluded

**Persistence and degradability****Components:****Benzylpenicillin:**

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

# Benzylpenicillin / Streptomycin Sulphate / Procaine Hydrochloride / Piroxicam Liquid Formulation

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## Bioaccumulative potential

### Components:

#### Streptomycin sulphate:

Partition coefficient: n-  
octanol/water : log Pow: -3,2

#### Procaine hydrochloride:

Partition coefficient: n-  
octanol/water : log Pow: 2,14

#### Mobility in soil

No data available

#### Other adverse effects

No data available

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## 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.

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## SECTION 14. TRANSPORT INFORMATION

### International Regulations

#### UNRTDG

UN number : UN 3082

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
N.O.S.  
(Benzylpenicillin, Streptomycin sulphate)

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.  
(Benzylpenicillin, Streptomycin sulphate)

Class : 9

Packing group : III

Labels : Miscellaneous

Packing instruction (cargo  
aircraft) : 964

Packing instruction (passen-  
ger aircraft) : 964

Environmentally hazardous : yes

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**Benzylpenicillin / Streptomycin Sulphate /  
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**IMDG-Code**

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Benzylpenicillin, Streptomycin sulphate)
Class	:	9
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.

**Domestic regulation****ANTT**

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Benzylpenicillin, Streptomycin sulphate)
Class	:	9
Packing group	:	III
Labels	:	9
Hazard Identification Number	:	90

**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/legislation specific for the substance or mixture**

National List of Carcinogenic Agents for Humans - (LINACH) : Not applicable

Brazil. List of chemicals controlled by the Federal Police : Not applicable

**The ingredients 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**

# Benzylpenicillin / Streptomycin Sulphate / Procaine Hydrochloride / Piroxicam Liquid Formulation

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Revision Date : 30.09.2023  
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/>

## Full text of other abbreviations

AllC - 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.

# SAFETY DATA SHEET



## **Benzylpenicillin / Streptomycin Sulphate / Procaine Hydrochloride / Piroxicam Liquid Formulation**

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