SAFETY DATA SHEET

Florfenicol (2%) Liquid Formulation

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: Florfenicol (2%) Liquid Formulation

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

Use of the Substance/Mixture: Veterinary product

1.3 Details of the supplier of the safety data sheet

Company: MSD
20 Spartan Road
1619 Spartan, South Africa

Telephone: +27119239300

E-mail address of person responsible for the SDS: EHSDATASTEWARD@msd.com

1.4 Emergency telephone number

+1-908-423-6000

Section 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Specific target organ toxicity - repeated exposure, Category 2
Long-term (chronic) aquatic hazard, Category 2

H373: May cause damage to organs through prolonged or repeated exposure.
H411: Toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms:

Signal word: Warning

Hazard statements:

H373: May cause damage to organs through prolonged or repeated exposure.
H411: Toxic to aquatic life with long lasting effects.

Precautionary statements:

Prevention:
P273 Avoid release to the environment.

Response:
Hazardous components which must be listed on the label:
Florfenicol

2.3 Other hazards
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
Dust contact with the eyes can lead to mechanical irritation.
Contact with dust can cause mechanical irritation or drying of the skin.
May form combustible dust concentrations in air during processing, handling or other means.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

<table>
<thead>
<tr>
<th>Components</th>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Classification</th>
<th>Concentration (% w/w)</th>
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</thead>
<tbody>
<tr>
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<td>Florfenicol</td>
<td>73231-34-2</td>
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<td>2</td>
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<table>
<thead>
<tr>
<th>Classification</th>
<th>Aquatic Acute</th>
<th>M-Factor (Acute aquatic toxicity): 10</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>M-Factor (Chronic aquatic toxicity): 10</td>
<td></td>
</tr>
</tbody>
</table>

M-Factor (Acute aquatic toxicity): 10
M-Factor (Chronic aquatic toxicity): 10

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

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

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).

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

In case of skin contact: In case of contact, immediately flush skin with soap and plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

In case of eye contact: If in eyes, rinse well with water. Get medical attention if irritation develops and persists.

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

4.2 Most important symptoms and effects, both acute and delayed

Risks: May cause damage to organs through prolonged or repeated exposure. Contact with dust can cause mechanical irritation or drying of the skin. Dust contact with the eyes can lead to mechanical irritation.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment: Treat symptomatically and supportively.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Water spray
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media: None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting: Exposure to combustion products may be a hazard to health. Hazardous combustion products: Carbon oxides

5.3 Advice for firefighters

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

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

SECTION 6: Accidental release measures

6.1 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).

6.2 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.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up: Soak up with inert absorbent material. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. 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.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical measures: Static electricity may accumulate and ignite suspended dust causing an explosion. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.
Local/Total ventilation: Use only with adequate ventilation.

Advice on safe handling:
- Do not breathe mist or vapours.
- Do not swallow.
- Avoid contact with eyes.
- Avoid prolonged or repeated contact with skin.
- Wash skin thoroughly after handling.
- Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment.
- Minimize dust generation and accumulation.
- Keep container closed when not in use.
- Keep away from heat and sources of ignition.
- Take precautionary measures against static discharges.
- Do not eat, drink or smoke when using this product.
- Take care to prevent spills, waste and minimize release to the environment.

Hygiene measures:
- If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use.
- The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers:
- Keep in properly labelled containers. Store in accordance with the particular national regulations.

Advice on common storage:
- Do not store with the following product types:
  - Strong oxidizing agents
  - Organic peroxides
  - Explosives
  - Gases

7.3 Specific end use(s)

Specific use(s):
- No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

**Occupational Exposure Limits**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis</th>
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<tbody>
<tr>
<td>Propylene glycol</td>
<td>57-55-6</td>
<td>TWA OEL-RL (particulate)</td>
<td>10 mg/m3</td>
<td>ZA OEL</td>
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</table>

Further information: Recommended Limit

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>TWA OEL-RL (Vapour + particulates)</th>
<th>150 ppm 470 mg/m3</th>
<th>ZA OEL</th>
</tr>
</thead>
</table>

Further information: Recommended Limit
Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

<table>
<thead>
<tr>
<th>Substance name</th>
<th>End Use</th>
<th>Exposure routes</th>
<th>Potential health effects</th>
<th>Value</th>
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<tbody>
<tr>
<td>Propylene glycol</td>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term local effects</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>168 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Inhalation</td>
<td>Long-term local effects</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>50 mg/m³</td>
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</table>

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

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<th>Substance name</th>
<th>Environmental Compartment</th>
<th>Value</th>
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<tr>
<td>Propylene glycol</td>
<td>Fresh water</td>
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<td>Marine water</td>
<td>26 mg/l</td>
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<td></td>
<td>Intermittent use/release</td>
<td>183 mg/l</td>
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<td>Sewage treatment plant</td>
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<td></td>
<td>Fresh water sediment</td>
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<tr>
<td></td>
<td>Marine sediment</td>
<td>57.2 mg/kg</td>
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<td></td>
<td>Soil</td>
<td>50 mg/kg</td>
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</table>

8.2 Exposure controls

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

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.

Hand protection: Chemical-resistant gloves

Skin and body protection: Work uniform or laboratory coat.

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

Filter type: Particulates type (P)

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance: liquid
Colour: Colorless to pale yellow
### Odour
- **Odour**: odourless, characteristic, very faint

### pH
- **pH**: No data available

### Melting point/freezing point
- **Melting point/freezing point**: No data available

### Initial boiling point and boiling range
- **Initial boiling point and boiling range**: No data available

### Flash point
- **Flash point**: No data available

### Evaporation rate
- **Evaporation rate**: No data available

### Flammability (solid, gas)
- **Flammability (solid, gas)**: May form combustible dust concentrations in air during processing, handling or other means.

### Upper explosion limit / Upper flammability limit
- **Upper explosion limit / Upper flammability limit**: No data available

### Lower explosion limit / Lower flammability limit
- **Lower explosion limit / Lower flammability limit**: No data available

### Vapour pressure
- **Vapour pressure**: No data available

### Relative vapour density
- **Relative vapour density**: No data available

### Relative density
- **Relative density**: No data available

### Density
- **Density**: No data available

### 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

### Explosive properties
- **Explosive properties**: Not explosive

### Oxidizing properties
- **Oxidizing properties**: The substance or mixture is not classified as oxidizing.

### 9.2 Other information
- **Flammability (liquids)**: No data available
- **Molecular weight**: No data available
- **Particle size**: Not applicable
SECTION 10: Stability and reactivity

10.1 Reactivity
Not classified as a reactivity hazard.

10.2 Chemical stability
Stable under normal conditions.

10.3 Possibility of hazardous reactions
Hazardous reactions:
May form combustible dust concentrations in air during processing, handling or other means.
Can react with strong oxidizing agents.

10.4 Conditions to avoid
Conditions to avoid:
Heat, flames and sparks.
Avoid dust formation.

10.5 Incompatible materials
Materials to avoid:
Oxidizing agents

10.6 Hazardous decomposition products
No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Information on likely routes of exposure:
Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity
Not classified based on available information.

Components:
Florfenicol:
Acute oral toxicity:
LD50 (Rat): > 2.000 mg/kg
LD50 (Mouse): > 2.000 mg/kg
LD50 (Dog): > 1.280 mg/kg

Acute inhalation toxicity:
LC50 (Rat): > 0,28 mg/l
Exposure time: 4 h

Acute dermal toxicity:
Remarks: No data available

Acute toxicity (other routes of administration):
LD50 (Rat): 1.913 - 2.253 mg/kg
Application Route: Intraperitoneal
LD50 (Mouse): 100 mg/kg
Application Route: Intravenous
Skin corrosion/irritation
Not classified based on available information.

**Components:**

**Florfenicol:**
Species: Rabbit
Result: No skin irritation

**Serious eye damage/eye irritation**
Not classified based on available information.

**Components:**

**Florfenicol:**
Species: Rabbit
Result: Mild eye irritation

**Respiratory or skin sensitisation**

**Skin sensitisation**
Not classified based on available information.

**Respiratory sensitisation**
Not classified based on available information.

**Components:**

**Florfenicol:**
Test Type: Maximisation Test
Species: Guinea pig
Result: negative

**Germ cell mutagenicity**
Not classified based on available information.

**Components:**

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

Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
Test system: rat hepatocytes
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Result: negative

Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
## Genotoxicity in vivo

- **Test Type:** Micronucleus test  
  - **Species:** Mouse  
  - **Cell type:** Bone marrow  
  - **Application Route:** Oral  
  - **Result:** negative

## Components:

### Florfenicol:

<table>
<thead>
<tr>
<th>Effect</th>
<th>Test Type</th>
<th>Species</th>
<th>Application Route</th>
<th>Exposure time</th>
<th>Result</th>
<th>Target Organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effects on fertility</td>
<td>Two-generation reproduction toxicity study</td>
<td>Rat</td>
<td>oral (gavage)</td>
<td>2 Years</td>
<td>negative</td>
<td>Liver, Testes</td>
</tr>
<tr>
<td></td>
<td>Fertility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>LOAEL</td>
<td></td>
<td></td>
<td>12 mg/kg body weight</td>
<td></td>
<td>decreased pup survival, reduced lactation</td>
</tr>
</tbody>
</table>

## Reproductive toxicity

- Not classified based on available information.

### Components:

#### Florfenicol:

- **Effects on fertility:**  
  - **Test Type:** Two-generation reproduction toxicity study  
  - **Species:** Rat  
  - **Application Route:** Oral  
  - **Fertility:** LOAEL: 12 mg/kg body weight  
  - **Result:** decreased pup survival, reduced lactation

- **Effects on foetal development:**  
  - **Test Type:** Embryo-foetal development  
  - **Species:** Rat  
  - **General Toxicity Maternal:** NOAEL: 4 mg/kg body weight  
  - **Embryo-foetal toxicity:** LOAEL: 40 mg/kg body weight  
  - **Result:** No teratogenic effects, Fetotoxicity  
  - **Remarks:** The effects were seen only at maternally toxic doses.

  - **Test Type:** Embryo-foetal development  
  - **Species:** Mouse  
  - **Application Route:** oral (gavage)  
  - **General Toxicity Maternal:** NOAEL: 120 mg/kg body weight  
  - **Embryo-foetal toxicity:** LOAEL: 40 mg/kg body weight  
  - **Result:** Fetotoxicity

- **Reproductive toxicity - As:**  
  - **Some evidence of adverse effects on sexual function and**
**SAFETY DATA SHEET**

**Florfenicol (2%) Liquid Formulation**

<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date:</th>
<th>SDS Number:</th>
<th>Date of last issue:</th>
<th>Date of first issue:</th>
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<td>1.2</td>
<td>09.04.2021</td>
<td>5207915-00003</td>
<td>10.10.2020</td>
<td>24.10.2019</td>
</tr>
</tbody>
</table>

**Assessment**

Fertility, based on animal experiments. Some evidence of adverse effects on development, based on animal experiments.

**STOT - single exposure**

Not classified based on available information.

**STOT - repeated exposure**

May cause damage to organs through prolonged or repeated exposure.

**Components:**

**Florfenicol:**

- **Target Organs:** Liver, Brain, Testis, Spinal cord, Blood, gallbladder
- **Assessment:** Causes damage to organs through prolonged or repeated exposure.

**Repeated dose toxicity**

**Components:**

**Florfenicol:**

- **Species:** Dog
  - **NOAEL:** 3 mg/kg
  - **Exposure time:** 13 Weeks
  - **Target Organs:** Liver, Testis, Brain, Spinal cord

- **Species:** Mouse
  - **NOAEL:** 200 mg/kg
  - **Exposure time:** 13 Weeks
  - **Target Organs:** Liver, Testis

- **Species:** Rat
  - **NOAEL:** 30 mg/kg
  - **Exposure time:** 13 Weeks
  - **Target Organs:** Liver, Testis

- **Species:** Dog
  - **NOAEL:** 3 mg/kg
  - **LOAEL:** 12 mg/kg
  - **Exposure time:** 52 Weeks
  - **Target Organs:** Liver, gallbladder

- **Species:** Rat
  - **NOAEL:** 1 mg/kg
  - **LOAEL:** 3 mg/kg
  - **Exposure time:** 52 Weeks
  - **Target Organs:** Testis

**Aspiration toxicity**

Not classified based on available information.
12.1 Toxicity

Components:

Florfenicol:

Toxicity to fish:
- LC50 (Lepomis macrochirius (Bluegill sunfish)): > 830 mg/l
  Exposure time: 96 h
  Method: FDA 4.11
- LC50 (Oncorhynchus mykiss (rainbow trout)): > 780 mg/l
  Exposure time: 96 h
  Method: FDA 4.11

Toxicity to daphnia and other aquatic invertebrates:
- EC50 (Daphnia magna (Water flea)): > 330 mg/l
  Exposure time: 48 h
  Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants:
- EC50 (Pseudokirchneriella subcapitata (green algae)): > 2.9 mg/l
  Exposure time: 14 d
  Method: FDA 4.01
- NOEC (Pseudokirchneriella subcapitata (green algae)): 2.9 mg/l
  Exposure time: 14 d
  Method: FDA 4.01
- IC50 (Skeletonema costatum (marine diatom)): 0.0336 mg/l
  Exposure time: 72 h
  Method: ISO 10253
- NOEC (Skeletonema costatum (marine diatom)): 0.00423 mg/l
  Exposure time: 72 h
  Method: ISO 10253
- EC50 (Lemna gibba (gibbous duckweed)): 0.76 mg/l
  Exposure time: 7 d
  Method: OECD Test Guideline 221
- NOEC (Lemna gibba (gibbous duckweed)): 0.39 mg/l
  Exposure time: 7 d
  Method: OECD Test Guideline 221
- EC50 (Navicula pelliculosa (Freshwater diatom)): 61 mg/l
  Exposure time: 72 h
  Method: OECD Test Guideline 201
- NOEC (Navicula pelliculosa (Freshwater diatom)): 19 mg/l
  Exposure time: 72 h
  Method: OECD Test Guideline 201
- EC50 (Anabaena flos-aquae): 0.066 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

NOEC (Anabaena flos-aquae): 0.051 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity): 10

Toxicity to fish (Chronic toxicity): NOEC: 5.5 mg/l
Exposure time: 32 d
Species: Pimephales promelas (fathead minnow)
Method: OECD Test Guideline 210

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOEC: 1.5 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211

M-Factor (Chronic aquatic toxicity): 10

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential

Components:
Florfenicol:
Partition coefficient: n-octanol/water: log Pow: 0.373

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment

Product:
Assessment: This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Product:
Endocrine disrupting potential: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
SAFETY DATA SHEET

Florfenicol (2%) Liquid Formulation

Version 1.2  Revision Date: 09.04.2021  SDS Number: 5207915-00003  Date of last issue: 10.10.2020  Date of first issue: 24.10.2019

SECTION 13: Disposal considerations

13.1 Waste treatment methods

| Product: Dispose of in accordance with local regulations. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities. |
| 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

14.1 UN number

| ADN | UN 3082 |
| ADR | UN 3082 |
| RID | UN 3082 |
| IMDG | UN 3082 |
| IATA | UN 3082 |

14.2 UN proper shipping name

| ADN | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Florfenicol) |
| ADR | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Florfenicol) |
| RID | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Florfenicol) |
| IMDG | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Florfenicol) |
| IATA | Environmentally hazardous substance, liquid, n.o.s. (Florfenicol) |

14.3 Transport hazard class(es)

| ADN | 9 |
| ADR | 9 |
| RID | 9 |
| IMDG | 9 |
| IATA | 9 |

14.4 Packing group
<table>
<thead>
<tr>
<th>Section</th>
<th>Details</th>
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</thead>
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### 14.5 Environmental hazards

<table>
<thead>
<tr>
<th>Section</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADN</td>
<td>Environmentally hazardous: yes</td>
</tr>
<tr>
<td>ADR</td>
<td>Environmentally hazardous: yes</td>
</tr>
<tr>
<td>RID</td>
<td>Environmentally hazardous: yes</td>
</tr>
<tr>
<td>IMDG</td>
<td>Marine pollutant: yes</td>
</tr>
<tr>
<td>IATA (Passenger)</td>
<td>Environmentally hazardous: yes</td>
</tr>
<tr>
<td>IATA (Cargo)</td>
<td>Environmentally hazardous: yes</td>
</tr>
</tbody>
</table>
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14.6 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.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Remarks : Not applicable for product as supplied.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

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

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

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Other information : 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 H-Statements

- H361fd : Suspected of damaging fertility. Suspected of damaging the unborn child.
- H372 : Causes damage to organs through prolonged or repeated exposure.
- H400 : Very toxic to aquatic life.
- H410 : Very toxic to aquatic life with long lasting effects.

Full text of other abbreviations

- Aquatic Acute : Short-term (acute) aquatic hazard
- Aquatic Chronic : Long-term (chronic) aquatic hazard
- Repr. : Reproductive toxicity
- STOT RE : Specific target organ toxicity - repeated exposure
- ZA OEL : South Africa. Hazardous Chemical Substances Regulations, Occupational Exposure Limits
- ZA OEL / TWA OEL-RL : Long term occupational exposure limits - recommended limit

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Con-
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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; 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; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance 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 Bio-accumulative

Further information


Classification of the mixture:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>STOT RE 2</td>
<td>H373</td>
</tr>
<tr>
<td>Aquatic Chronic 2</td>
<td>H411</td>
</tr>
</tbody>
</table>

Classification procedure:

Calculation method

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.

ZA / EN