1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Florfenicol Liquid Formulation

Manufacturer or supplier’s details
Company: MSD
Address: No. 485 Jing Tai Road
Pu Tuo District - Shanghai - China 200331
Telephone: 908-740-4000
Emergency telephone number: 86-571-87268110
E-mail address: EHSDATASTEWARD@msd.com

Recommended use of the chemical and restrictions on use
Recommended use: Veterinary product

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance: viscous
Colour: gold
Odour: No data available

Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May damage the unborn child. Suspected of damaging fertility. Causes damage to organs through prolonged or repeated exposure. Very toxic to aquatic life with long lasting effects.

GHS Classification

Skin corrosion/irritation: Category 2
Serious eye damage/eye irritation: Category 2A
Reproductive toxicity: Category 1B
Specific target organ toxicity - single exposure: Category 3
Specific target organ toxicity - repeated exposure: Category 1
Short-term (acute) aquatic hazard: Category 1
Long-term (chronic) aquatic hazard: Category 1
Florfenicol Liquid Formulation

GHS label elements

<table>
<thead>
<tr>
<th>Hazard pictograms</th>
<th>:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal word</td>
<td>Danger</td>
</tr>
</tbody>
</table>
| Hazard statements | H315 Causes skin irritation.  
|                   | H319 Causes serious eye irritation.  
|                   | H335 May cause respiratory irritation.  
|                   | H360Df May damage the unborn child. Suspected of damaging fertility.  
|                   | H372 Causes damage to organs through prolonged or repeated exposure.  
|                   | 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.
- P260 Do not breathe mist or vapours.
- P264 Wash skin thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated area.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:**
- P302 + P352 IF ON SKIN: Wash with plenty of water.
- P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P308 + P313 IF exposed or concerned: Get medical advice/ attention.
- P332 + P313 If skin irritation occurs: Get medical advice/ attention.
- P337 + P313 If eye irritation persists: Get medical advice/ attention.
- 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.
**SAFETY DATA SHEET**

according to GB/T 16483 and GB/T 17519

**Florfenicol Liquid Formulation**

**Version**: 6.0  
**Revision Date**: 2020/03/23  
**SDS Number**: 26269-00016  
**Date of last issue**: 2019/09/13  
**Date of first issue**: 2014/10/29

**Physical and chemical hazards**

Not classified based on available information.

**Health hazards**

Causes skin irritation. Causes serious eye irritation. May damage the unborn child. Suspected of damaging fertility. May cause respiratory irritation. Causes damage to organs through prolonged or repeated exposure.

**Environmental hazards**

Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

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

None known.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substance / Mixture**: Mixture

**Components**

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Florfenicol</td>
<td>73231-34-2</td>
<td>&gt;= 30 - &lt; 50</td>
</tr>
<tr>
<td>N-Methyl-2-pyrrolidone</td>
<td>872-50-4</td>
<td>&gt;= 20 - &lt; 30</td>
</tr>
</tbody>
</table>

### 4. FIRST AID MEASURES

**General advice**

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

**If inhaled**

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

**In case of skin contact**

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. 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. If easy to do, remove contact lens, if worn. Get medical attention.

**If swallowed**

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

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

Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May damage the unborn child. Suspected of damaging fertility. Causes damage to organs through prolonged or repeated exposure.

**Protection of first-aiders**

First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment.
Florfenicol Liquid Formulation

5. FIREFIGHTING MEASURES

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

Unsuitable extinguishing media: None known.

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

Hazardous combustion products: Carbon oxides
Nitrogen oxides (NOx)

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment.
Follow safe handling advice and personal protective equipment recommendations.

Environmental precautions: Discharge into the environment must be avoided.
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 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.
7. HANDLING AND STORAGE

Handling
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 vapours or spray mist.
Do not swallow.
Do not get in 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 should consult their physician regarding working with respiratory irritants or sensitisers.
Take care to prevent spills, waste and minimize release to the environment.

Avoidance of contact: Oxidizing agents

Storage
Conditions for safe storage: Keep in properly labelled containers.
Store locked up.
Keep tightly closed.
Keep in a cool, well-ventilated place.
Store in accordance with the particular national regulations.

Materials to avoid: Do not store with the following product types:
Strong oxidizing agents

Packaging material: Unsuitable material: None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Florfenicol</td>
<td>73231-34-2</td>
<td>TWA</td>
<td>100 µg/m³ (OEB 2)</td>
<td>Internal</td>
</tr>
</tbody>
</table>

Biological occupational exposure limits

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Biological specimen</th>
<th>Sampling time</th>
<th>Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-Methyl-2-pyrrolidone</td>
<td>872-50-4</td>
<td>5-Hydroxy-N-methyl-2-pyrrolidone</td>
<td>Urine</td>
<td>End of shift (As soon as possible after exposure)</td>
<td>100 mg/l</td>
<td>ACGIH BEI</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET
according to GB/T 16483 and GB/T 17519

Florfenicol Liquid Formulation

Version 6.0    Revision Date: 2020/03/23    SDS Number: 26269-00016    Date of last issue: 2019/09/13
Date of first issue: 2014/10/29

Engineering measures: Use appropriate engineering controls and manufacturing
technologies to control airborne concentrations (e.g., dripless 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: Combined particulates and organic vapour type
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 and body protection: Work uniform or laboratory coat.

Hand protection: Chemical-resistant gloves

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: viscous
Colour: gold
Odour: No data available
Odour 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
Florfenicol Liquid Formulation

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (liquids)</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper explosion limit / Upper flammability limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower explosion limit / Lower flammability limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td></td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not explosive</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>The substance or mixture is not classified as oxidizing.</td>
</tr>
<tr>
<td>Particle size</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

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.

11. TOXICOLOGICAL INFORMATION

- Exposure routes: Inhalation
Skin contact
Ingestion
Eye contact

**Acute toxicity**
Not classified based on available information.

**Product:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Acute oral toxicity</th>
<th>Method: Calculation method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Florfenicol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute oral toxicity</td>
<td>LD50 (Rat): &gt; 2,000 mg/kg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LD50 (Mouse): &gt; 2,000 mg/kg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LD50 (Dog): &gt; 1,280 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Acute inhalation toxicity</td>
<td>LC50 (Rat): &gt; 0.28 mg/l</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exposure time: 4 h</td>
<td></td>
</tr>
<tr>
<td>Acute dermal toxicity</td>
<td>Remarks: No data available</td>
<td></td>
</tr>
</tbody>
</table>

**Components:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Acute oral toxicity</th>
<th>Application Route:</th>
<th>Test atmosphere:</th>
<th>Method:</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-Methyl-2-pyrrolidone</td>
<td></td>
<td></td>
<td>dust/mist</td>
<td>OECD Test Guideline 403</td>
</tr>
<tr>
<td>Acute oral toxicity</td>
<td>LD50 (Rat): 4,150 mg/kg</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute inhalation toxicity</td>
<td>LC50 (Rat): &gt; 5.1 mg/l</td>
<td>Intraperitoneal</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exposure time: 4 h</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Test atmosphere:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Application Route: Intravenous</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Skin corrosion/irritation**

Causes skin irritation.

**Components:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Florfenicol</td>
<td>No skin irritation</td>
</tr>
<tr>
<td>N-Methyl-2-pyrrolidone</td>
<td>Skin irritation</td>
</tr>
</tbody>
</table>
**Serious eye damage/eye irritation**

- Causes serious eye irritation.

**Components:**

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

- **N-Methyl-2-pyrrolidone:**
  - Species: Rabbit
  - Result: Irritation to eyes, reversing within 21 days

**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

- **N-Methyl-2-pyrrolidone:**
  - 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:**

- **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
### Genotoxicity in vivo

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

### Genotoxicity in vitro

- **Test Type:** Chromosome aberration test in vitro  
  - **Test system:** Chinese hamster ovary cells  
  - **Result:** positive

### N-Methyl-2-pyrrolidone:

- **Genotoxicity in vivo:**  
  - **Test Type:** Bacterial reverse mutation assay (AMES)  
    - **Method:** OECD Test Guideline 471  
    - **Result:** negative

### Carcinogenicity

- Not classified based on available information.

### Components:

#### Florfenicol:

- **Species:** Rat  
- **Application Route:** oral (gavage)  
- **Exposure time:** 2 Years  
- **Result:** negative  
- **Target Organs:** Liver, Testes

- **Species:** Mouse
Florfenicol Liquid Formulation

Application Route: oral (gavage)
Exposure time: 2 Years
Result: negative
Target Organs: Testes, Blood

N-Methyl-2-pyrrolidone:
Species: Rat
Application Route: Ingestion
Exposure time: 2 Years
Result: negative

Reproductive toxicity
May damage the unborn child. Suspected of damaging fertility.

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 - Assessment
Some evidence of adverse effects on sexual function and fertility, based on animal experiments. Some evidence of adverse effects on development, based on animal experiments.

N-Methyl-2-pyrrolidone:
Effects on fertility:
Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Florfenicol Liquid Formulation

<table>
<thead>
<tr>
<th>Method</th>
<th>Result</th>
<th>Test Type</th>
<th>Species</th>
<th>Application Route</th>
<th>Result</th>
<th>Test Type</th>
<th>Species</th>
<th>Application Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>OECD Test Guideline 416</td>
<td>negative</td>
<td>Embryo-foetal development</td>
<td>Rat</td>
<td>Ingestion</td>
<td>positive</td>
<td>Fertility/early embryonic development</td>
<td>Rat</td>
<td>Ingestion (vapour)</td>
</tr>
<tr>
<td>OECD Test Guideline 414</td>
<td>positive</td>
<td>Embryo-foetal development</td>
<td>Rabbit</td>
<td>Ingestion</td>
<td>positive</td>
<td>Embryo-foetal development</td>
<td>Rabbit</td>
<td>Ingestion</td>
</tr>
</tbody>
</table>

**STOT - single exposure**
- May cause respiratory irritation.

**Components:**

- N-Methyl-2-pyrroldione:
  - Assessment: May cause respiratory irritation.

**STOT - repeated exposure**
- Causes 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
Florfenicol Liquid Formulation

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
Species: Rat
NOAEL: 169 mg/kg
LOAEL: 433 mg/kg
Application Route: Ingestion
Exposure time: 90 Days
Method: OECD Test Guideline 408

Species: Rat
NOAEL: 0.5 mg/l
LOAEL: 1 mg/l
Application Route: inhalation (dust/mist/fume)
Exposure time: 96 Days
Method: OECD Test Guideline 413

Species: Rabbit
NOAEL: 826 mg/kg
LOAEL: 1,653 mg/kg
Application Route: Skin contact
Exposure time: 20 Days

Aspiration toxicity
Not classified based on available information.

Experience with human exposure

Components:

N-Methyl-2-pyrrolidone:

Skin contact: Symptoms: Skin irritation
12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Florfenicol:

<table>
<thead>
<tr>
<th>Toxicity to fish</th>
<th>LC50 (Lepomis macrochirus (Bluegill sunfish)): &gt; 830 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time:</td>
<td>96 h</td>
</tr>
<tr>
<td>Method:</td>
<td>FDA 4.11</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Toxicity to fish</th>
<th>LC50 (Oncorhynchus mykiss (rainbow trout)): &gt; 780 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time:</td>
<td>96 h</td>
</tr>
<tr>
<td>Method:</td>
<td>FDA 4.11</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Toxicity to daphnia and other aquatic invertebrates</th>
<th>EC50 (Daphnia magna (Water flea)): &gt; 330 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time:</td>
<td>48 h</td>
</tr>
<tr>
<td>Method:</td>
<td>OECD Test Guideline 202</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Toxicity to algae/aquatic plants</th>
<th>EC50 (Pseudokirchneriella subcapitata (green algae)): &gt; 2.9 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time:</td>
<td>14 d</td>
</tr>
<tr>
<td>Method:</td>
<td>FDA 4.01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Toxicity to algae/aquatic plants</th>
<th>NOEC (Pseudokirchneriella subcapitata (green algae)): 2.9 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time:</td>
<td>14 d</td>
</tr>
<tr>
<td>Method:</td>
<td>FDA 4.01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Toxicity to algae/aquatic plants</th>
<th>IC50 (Skeletonema costatum (marine diatom)): 0.0336 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time:</td>
<td>72 h</td>
</tr>
<tr>
<td>Method:</td>
<td>ISO 10253</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Toxicity to algae/aquatic plants</th>
<th>NOEC (Skeletonema costatum (marine diatom)): 0.00423 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time:</td>
<td>72 h</td>
</tr>
<tr>
<td>Method:</td>
<td>ISO 10253</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Toxicity to algae/aquatic plants</th>
<th>EC50 (Lemna gibba (gibbous duckweed)): 0.76 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time:</td>
<td>7 d</td>
</tr>
<tr>
<td>Method:</td>
<td>OECD Test Guideline 221</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Toxicity to algae/aquatic plants</th>
<th>NOEC (Lemna gibba (gibbous duckweed)): 0.39 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time:</td>
<td>7 d</td>
</tr>
<tr>
<td>Method:</td>
<td>OECD Test Guideline 221</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Toxicity to algae/aquatic plants</th>
<th>EC50 (Navicula pelliculosa (Freshwater diatom)): 61 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time:</td>
<td>72 h</td>
</tr>
<tr>
<td>Method:</td>
<td>OECD Test Guideline 201</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Toxicity to algae/aquatic plants</th>
<th>NOEC (Navicula pelliculosa (Freshwater diatom)): 19 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time:</td>
<td>72 h</td>
</tr>
<tr>
<td>Method:</td>
<td>OECD Test Guideline 201</td>
</tr>
</tbody>
</table>
Florfenicol Liquid Formulation

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 (Pimephales promelas (fathead minnow)): 5.5 mg/l
Exposure time: 32 d
Method: OECD Test Guideline 210

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

M-Factor (Chronic aquatic toxicity): 10

N-Methyl-2-pyrrolidone:

Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): > 500 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): > 1,000 mg/l
Exposure time: 24 h
Method: DIN 38412

Toxicity to algae/aquatic plants: ErC50 (Desmodesmus subspicatus (green algae)): 600.5 mg/l
Exposure time: 72 h

EC10 (Desmodesmus subspicatus (green algae)): 92.6 mg/l
Exposure time: 72 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOEC (Daphnia magna (Water flea)): 12.5 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211

Toxicity to microorganisms: EC50: > 600 mg/l
Exposure time: 30 min
Method: ISO 8192

Persistence and degradability

Components:

N-Methyl-2-pyrrolidone:

Biodegradability: Result: Readily biodegradable.
Biodegradation: 73 %
Exposure time: 28 d
Method: OECD Test Guideline 301C
Bioaccumulative potential

Components:

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

N-Methyl-2-pyrrolidone:
Partition coefficient: n-octanol/water : log Pow: -0.46 Method: OECD Test Guideline 107

Mobility in soil
No data available

Other adverse effects
No data available

13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues : 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.

14. TRANSPORT INFORMATION

International Regulations

UNRTDG
UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Florfenicol)
Class : 9
Packing group : III
Labels : 9

IATA-DGR
UN/ID No. : UN 3082
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s. (Florfenicol)
Class : 9
Packing group : III
Labels : Miscellaneous
Packing instruction (cargo aircraft) : 964
Packing instruction (passenger aircraft) : 964
Environmentally hazardous : yes

IMDG-Code
UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Florfenicol)
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.

National Regulations
GB 6944/12268
UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Florfenicol)
Class : 9
Packing group : III
Labels : 9

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.

15. REGULATORY INFORMATION

National regulatory information
Law on the Prevention and Control of Occupational Diseases

The components of this product are reported in the following inventories:
AICS : not determined
DSL : not determined
IECSC : not determined

16. OTHER INFORMATION

Further information

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.
SAFETY DATA SHEET
according to GB/T 16483 and GB/T 17519

Florfenicol Liquid Formulation

Version 6.0
Revision Date: 2020/03/23
SDS Number: 26269-00016
Date of last issue: 2019/09/13
Date of first issue: 2014/10/29

Full text of other abbreviations
ACGIH BEI: ACGIH - Biological Exposure Indices (BEI)

Disclaimer
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.

CN / EN