## 1. PRODUCT AND COMPANY IDENTIFICATION

### Chemical product name
Sulfadiazine (20%) / Trimethoprim (4%) Liquid Formulation

### Supplier’s company name, address and phone number

<table>
<thead>
<tr>
<th>Company name of supplier</th>
<th>Address</th>
<th>Telephone</th>
<th>E-mail address</th>
<th>Emergency telephone number</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSD</td>
<td>Kumagaya, Saitama Prefecture , Xicheng 810 MSD Co., Ltd. Menuma factory</td>
<td>048-588-8411</td>
<td><a href="mailto:EHSDATASTEWARD@msd.com">EHSDATASTEWARD@msd.com</a></td>
<td>+1-908-423-6000</td>
</tr>
</tbody>
</table>

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

**Recommended use**
Veterinary product

## 2. HAZARDS IDENTIFICATION

### GHS classification of chemical product

<table>
<thead>
<tr>
<th>Classification</th>
<th>Category/Guarantee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/irritation</td>
<td>Sub-category 1B</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 1</td>
</tr>
<tr>
<td>Respiratory sensitisation</td>
<td>Category 1</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Category 2</td>
</tr>
<tr>
<td>Specific target organ toxicity - single exposure</td>
<td>Category 3</td>
</tr>
<tr>
<td>Specific target organ toxicity - repeated exposure</td>
<td>Category 2 (Bone marrow)</td>
</tr>
<tr>
<td>Short-term (acute) aquatic hazard</td>
<td>Category 2</td>
</tr>
<tr>
<td>Long-term (chronic) aquatic hazard</td>
<td>Category 2</td>
</tr>
</tbody>
</table>

### GHS label elements

<table>
<thead>
<tr>
<th>Hazard pictograms</th>
<th>Signal word</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Daycare" /></td>
<td>Danger</td>
</tr>
</tbody>
</table>
Hazard statements:
- H314 Causes severe skin burns and eye damage.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335 May cause respiratory irritation.
- H361d Suspected of damaging the unborn child.
- H373 May cause damage to organs (Bone marrow) through prolonged or repeated exposure.
- H411 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.
- 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.
- P284 Wear respiratory protection.

Response:
- P301 + P330 + P331 + P310 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/ doctor.
- P303 + P361 + P353 + P310 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Immediately call a POISON CENTER/ doctor.
- P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
- P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
- P308 + P313 IF exposed or concerned: Get medical advice/ attention.
- P363 Wash contaminated clothing before reuse.
- P391 Collect spillage.

Storage:
- P405 Store locked up.

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

Other hazards which do not result in classification:
None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS
SAFETY DATA SHEET

Sulfadiazine (20%) / Trimethoprim (4%) Liquid Formulation

Substance / Mixture : Mixture

Components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
<th>ENCS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfadiazine</td>
<td>68-35-9</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Trimethoprim</td>
<td>738-70-5</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>1310-73-2</td>
<td>3</td>
<td>1-410</td>
</tr>
<tr>
<td>2,2’-Iminodiethanol</td>
<td>111-42-2</td>
<td>0.6</td>
<td>2-302, 2-354</td>
</tr>
<tr>
<td>Polyethylene glycol sorbitan monolaurate</td>
<td>9005-64-5</td>
<td>0.01</td>
<td>7-110, 8-55</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. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

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 immediately. 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 immediately.

If swallowed : If swallowed, DO NOT induce vomiting. If vomiting occurs have person lean forward. Call a physician or poison control centre immediately. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed : Causes serious eye damage. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. Suspected of damaging the unborn child. May cause damage to organs through prolonged or repeated exposure. Causes severe burns. Causes digestive tract burns. 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.
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
                               Metal 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 (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 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 mist or vapours. 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 sensitised individuals should consult their physician regarding working with respiratory irritants or sensitizers.

Avoidance of contact:
- Oxidizing agents
- Acids

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.

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

Threshold limit value and permissible exposure limits for each component in the work environment

| Components | CAS-No. | Value type (Form of exposure) | Control parameters / Reference concentration / Basis |
|------------|---------|------------------------------|-----------------------------------------------------|-------------|
|            |         |                              |                                                     |             |
SAFETY DATA SHEET

Sulfadiazine (20%) / Trimethoprim (4%) Liquid Formulation

Version 7.0  Revision Date: 2021/08/27  SDS Number: 1737572-00013  Date of last issue: 2021/03/03  Date of first issue: 2017/06/08

<table>
<thead>
<tr>
<th></th>
<th>Permissible concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfadiazine</td>
<td>68-35-9</td>
</tr>
<tr>
<td>Trimethoprim</td>
<td>738-70-5</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>1310-73-2</td>
</tr>
<tr>
<td>2,2'-Iminodiethanol</td>
<td>111-42-2</td>
</tr>
</tbody>
</table>

**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: 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state**: liquid
**Colour**: off-white to beige
**Odour**: No data available
**Odour Threshold**: No data available
**Melting point/freezing point**: No data available
**Boiling point, initial boiling point and boiling range**: No data available
**Flammability (solid, gas)**: Not applicable
SAFETY DATA SHEET

Sulfadiazine (20%) / Trimethoprim (4%) Liquid Formulation

Flammability (liquids) : No data available

Lower explosion limit and upper explosion limit / flammability limit
Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Flash point : No data available

Decomposition temperature : No data available

pH : 10.0 - 10.5

Evaporation rate : No data available

Auto-ignition temperature : No data available

Viscosity
Viscosity, kinematic : No data available

Solubility(ies)
Water solubility : No data available

Partition coefficient: n-octanol/water : Not applicable

Vapour pressure : No data available

Density and / or relative density
Relative density : No data available

Density : No data available

Relative vapour density : No data available

Explosive properties : Not explosive

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

Particle characteristics
Particle size : Not applicable

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
11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:
- Inhalation
- Skin contact
- Ingestion
- Eye contact

Acute toxicity
Not classified based on available information.

Product:
- Acute oral toxicity: Acute toxicity estimate: > 2,000 mg/kg
  Method: Calculation method

Components:

Sulfadiazine:
- Acute oral toxicity: LD50 (Mouse): 1,500 mg/kg
- Acute dermal toxicity: LD50 (Rat): > 5,000 mg/kg
  Remarks: Based on data from similar materials
- Acute toxicity (other routes of administration): LD50 (Rat): 880 mg/kg
  Application Route: Intravenous
  LD50 (Mouse): 180 mg/kg
  Application Route: Intravenous

Trimethoprim:
- Acute oral toxicity: LD50 (Mouse): 1,910 - 7,000 mg/kg
- LD50 (Rat): 1,500 - 5,300 mg/kg
  LD50 (Mouse): 1,910 - 7,000 mg/kg
- Acute toxicity (other routes of administration): LD50 (Rat): 400 - 500 mg/kg
  Application Route: Intraperitoneal
  LD50 (Dog): 90 mg/kg
  Application Route: Intravenous
  LD50 (Mouse): 132 mg/kg
  Application Route: Intravenous

Sodium hydroxide:
- Acute inhalation toxicity: Assessment: Corrosive to the respiratory tract.

2,2’-Iminodiol:...
**Acute oral toxicity**

LD50 (Rat): 1,600 mg/kg

**Acute inhalation toxicity**

LC50 (Rat): > 3.35 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

**Polyethylene glycol sorbitan monolaurate:**

Acute inhalation toxicity

LC50 (Rat): > 5.1 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

**Skin corrosion/irritation**

Causes severe burns.

**Components:**

**Sulfadiazine:**

<table>
<thead>
<tr>
<th>Result</th>
<th>Skin irritation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

**Sodium hydroxide:**

<table>
<thead>
<tr>
<th>Result</th>
<th>Corrosive after 3 minutes or less of exposure</th>
</tr>
</thead>
</table>

**2,2'-Iminodiethanol:**

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result</td>
<td>Skin irritation</td>
</tr>
</tbody>
</table>

**Polyethylene glycol sorbitan monolaurate:**

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>OECD Test Guideline 404</td>
</tr>
<tr>
<td>Result</td>
<td>No skin irritation</td>
</tr>
</tbody>
</table>

**Serious eye damage/eye irritation**

Causes serious eye damage.

**Components:**

**Sulfadiazine:**

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result</td>
<td>Irritation to eyes, reversing within 7 days</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

**Sodium hydroxide:**

<table>
<thead>
<tr>
<th>Result</th>
<th>Irreversible effects on the eye</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remarks</td>
<td>Based on skin corrosivity.</td>
</tr>
</tbody>
</table>
2,2'-Iminodiethanol:
- **Species**: Rabbit
- **Result**: Irreversible effects on the eye

Polyethylene glycol sorbitan monolaurate:
- **Species**: Rabbit
- **Result**: No eye irritation

**Respiratory or skin sensitisation**

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

**Respiratory sensitisation**
May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Components:**

**Sulfadiazine:**
- **Test Type**: Maximisation Test
- **Species**: Guinea pig
- **Result**: Not a skin sensitizer.
- **Remarks**: Based on data from similar materials

**Trimethoprim:**
- **Test Type**: Maximisation Test
- **Exposure routes**: Dermal
- **Species**: Guinea pig
- **Result**: Not a skin sensitizer.

**Sodium hydroxide:**
- **Test Type**: Human repeat insult patch test (HRIPT)
- **Exposure routes**: Skin contact
- **Result**: negative

2,2'-Iminodiethanol:
- **Test Type**: Maximisation Test
- **Exposure routes**: Skin contact
- **Species**: Guinea pig
- **Method**: OECD Test Guideline 406
- **Result**: negative

Polyethylene glycol sorbitan monolaurate:
- **Test Type**: Maximisation Test
- **Exposure routes**: Skin contact
- **Species**: Guinea pig
- **Method**: OECD Test Guideline 406
- **Result**: negative
SAFETY DATA SHEET

Sulfadiazine (20%) / Trimethoprim (4%) Liquid Formulation

Germ cell mutagenicity
Not classified based on available information.

Components:

Sulfadiazine:

Genotoxicity in vitro:
- Test Type: Bacterial reverse mutation assay (AMES)
  Result: negative
  Remarks: Based on data from similar materials
- Test Type: Chromosomal aberration
  Test system: Chinese hamster ovary cells
  Result: negative
  Remarks: Based on data from similar materials

Trimethoprim:

Genotoxicity in vitro:
- Test Type: Bacterial reverse mutation assay (AMES)
  Result: negative
- Test Type: Chromosomal aberration
  Result: negative
- Test Type: In vitro mammalian cell gene mutation test
  Result: negative
- Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
  Result: negative

Genotoxicity in vivo:
- Test Type: Micronucleus test
  Species: Rat
  Result: negative
- Test Type: Chromosomal aberration
  Species: Humans
  Result: negative

2,2'-Iminodiethanol:

Genotoxicity in vitro:
- Test Type: Bacterial reverse mutation assay (AMES)
  Result: negative
- Test Type: Chromosome aberration test in vitro
  Result: negative
- Test Type: In vitro sister chromatid exchange assay in mammalian cells
  Result: negative
- Test Type: In vitro mammalian cell gene mutation test
  Result: negative

Genotoxicity in vivo:
- Test Type: Mammalian erythrocyte micronucleus test (in vivo
Polyethylene glycol sorbitan monolaurate:

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

Carcinogenicity
Not classified based on available information.

Components:

2,2'-Iminodiethanol:
Species: Mouse
Application Route: Skin contact
Exposure time: 103 weeks
Result: positive
Remarks: The mechanism or mode of action may not be relevant in humans.

Species: Rat
Application Route: Skin contact
Exposure time: 103 weeks
Result: negative

Reproductive toxicity
Suspected of damaging the unborn child.

Components:

Sulfadiazine:
Effects on foetal development:
Test Type: Development
Species: Mouse
Application Route: Oral
General Toxicity Maternal: NOAEL: 1,000 mg/kg body weight
Result: Embryotoxic effects and adverse effects on the offspring were detected only at high maternally toxic doses

Trimethoprim:
Effects on fertility:
Test Type: Fertility
Species: Rat
Application Route: Oral
Fertility: NOAEL: 70 mg/kg body weight
Result: No effects on fertility

Effects on foetal development:
Test Type: Development
Species: Rat
Application Route: Oral
Developmental Toxicity: LOAEL: 70 mg/kg body weight
Result: Effects on newborn
Remarks: Maternal toxicity observed.

Test Type: Development
Species: Rat
Application Route: Oral
Developmental Toxicity: LOAEL: 70 mg/kg body weight
Result: Embryotoxic effects.
Remarks: Maternal toxicity observed.

Test Type: Development
Species: Rat
Application Route: Oral
Developmental Toxicity: LOAEL: 15 mg/kg body weight
Result: Embryotoxic effects., Teratogenic effects

Test Type: Development
Species: Hamster
Application Route: Oral
Developmental Toxicity: LOAEL: 1.7 mg/kg body weight
Result: Embryotoxic effects., No teratogenic effects

Test Type: Development
Species: Rabbit
Application Route: Oral
Developmental Toxicity: LOAEL: 100 mg/kg body weight
Result: Embryotoxic effects., No teratogenic effects

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

2,2'-Iminodiacetehanol:

Effects on fertility: Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Result: negative

Effects on foetal development: Test Type: Embryo-foetal development
Species: Rat
Application Route: Inhalation
Method: OECD Test Guideline 414
Result: negative

Polyethylene glycol sorbitan monolaurate:

Effects on foetal development: Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Result: negative

STOT - single exposure
May cause respiratory irritation.
Components:

Sulfadiazine:
- Assessment: May cause respiratory irritation.

STOT - repeated exposure
May cause damage to organs (Bone marrow) through prolonged or repeated exposure.

Components:

Trimethoprim:
- Target Organs: Bone marrow
- Assessment: Causes damage to organs through prolonged or repeated exposure.

2,2’-Iminodiethanol:
- Exposure routes: inhalation (dust/mist/fume)
- Assessment: No significant health effects observed in animals at concentrations of 0.2 mg/l/6h/d or less.

- Exposure routes: Ingestion
- Target Organs: Kidney, Blood, Liver
- Assessment: Shown to produce significant health effects in animals at concentrations of >10 to 100 mg/kg bw.

- Exposure routes: Skin contact
- Target Organs: Blood, Liver
- Assessment: Shown to produce significant health effects in animals at concentrations of >20 to 200 mg/kg bw.

Repeated dose toxicity

Components:

Trimethoprim:
- Species: Rat
  - NOAEL: 100 mg/kg
  - LOAEL: 300 mg/kg
- Application Route: Oral
- Exposure time: 6 Months
- Target Organs: Bone marrow, Liver, Pituitary gland, Thyroid

- Species: Rat
  - NOAEL: 2.5 mg/kg
  - LOAEL: 45 mg/kg
- Application Route: Oral
  - Species: Dog
SAFETY DATA SHEET

Sulfadiazine (20%) / Trimethoprim (4%) Liquid Formulation

Version 7.0  Revision Date: 2021/08/27  SDS Number: 1737572-00013
Date of last issue: 2021/03/03  Date of first issue: 2017/06/08

Exposure time: 3 Months
Target Organs: Blood, Thyroid

2,2'-Iminodiothanol:
Species: Rat
LOAEL: 14 - 25 mg/kg
Application Route: Ingestion
Exposure time: 13 Weeks

Species: Rat
LOAEL: 0.015 mg/l
Application Route: inhalation (dust/mist/fume)
Exposure time: 90 Days
Method: OECD Test Guideline 413

Species: Rat
LOAEL: 32 mg/kg
Application Route: Skin contact
Exposure time: 13 Weeks

Aspiration toxicity
Not classified based on available information.

Experience with human exposure

Components:

Sulfadiazine:
General Information: May cause eye, skin, and respiratory tract irritation.

Trimethoprim:
Ingestion: Target Organs: Bone marrow
Symptoms: Abdominal pain, Nausea, Vomiting, skin rash, Dizziness, Headache, mental depression, confusion

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Sulfadiazine:
Toxicity to fish: LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic: EC50 (Anabaena flos-aquae): 17 mg/l
plants
Exposure time: 72 h
Method: OECD Test Guideline 201

NOEC (Anabaena flos-aquae): 3.9 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

EC50 (Pseudokirchneriella subcapitata (green algae)): > 1 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.13 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

EC50 (Microcystis aeruginosa (blue-green algae)): 0.135 mg/l
Exposure time: 7 Days
Method: ISO 8692

M-Factor (Acute aquatic toxicity): 1
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):
NOEC (Daphnia magna (Water flea)): 6.2 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211

M-Factor (Chronic aquatic toxicity): 1
Toxicity to microorganisms:
EC50: > 1,000 mg/l
Exposure time: 3 h
Test Type: Respiration inhibition
Method: OECD Test Guideline 209

NOEC: 1,000 mg/l
Exposure time: 3 h
Test Type: Respiration inhibition
Method: OECD Test Guideline 209

Trimethoprim:
Toxicity to fish:
LC50 (Pimephales promelas (fathead minnow)): 100 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates:
EC50 (Daphnia magna Straus): 92 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants:
EC50 (Pseudokirchneriella subcapitata (microalgae)): 80.3 mg/l
Exposure time: 72 h

NOEC (Pseudokirchneriella subcapitata (green algae)): 16 mg/l
Exposure time: 72 h
SAFETY DATA SHEET

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Version: 7.0  Revision Date: 2021/08/27  SDS Number: 1737572-00013  Date of last issue: 2021/03/03  Date of first issue: 2017/06/08

EC50 (Anabaena flos-aquae): 253 mg/l  Exposure time: 72 h

EC10 (Anabaena flos-aquae): 26 mg/l  Exposure time: 72 h

Toxicity to fish (Chronic toxicity):  NOEC (Zebrafish): 0.157 mg/l  Exposure time: 21 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):  NOEC (Daphnia magna (Water flea)): 6 mg/l  Exposure time: 21 d

2,2'-Iminodiethanol:

Toxicity to fish:  LC50 (Oncorhynchus mykiss (rainbow trout)): 460 mg/l  Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates:  EC50 (Ceriodaphnia dubia (water flea)): 30.1 mg/l  Exposure time: 48 h

Toxicity to algae/aquatic plants:  ErC50 (Pseudokirchneriella subcapitata (green algae)): 9.5 mg/l  Exposure time: 72 h

EC10 (Pseudokirchneriella subcapitata (green algae)): 1.4 mg/l  Exposure time: 72 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):  EC10 (Daphnia magna (Water flea)); 1.05 mg/l  Exposure time: 21 d

Toxicity to microorganisms:  EC10:  > 1,000 mg/l  Exposure time: 30 min  Method: OECD Test Guideline 209

Polyethylene glycol sorbitan monolaurate:

Toxicity to fish:  LL50 (Danio rerio (zebra fish)):  > 100 mg/l  Exposure time: 96 h  Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):  NOEC (Daphnia magna (Water flea)): 10 mg/l  Exposure time: 21 d  Method: OECD Test Guideline 211

Persistence and degradability

Components:

Sulfadiazine:

Biodegradability:  Result: Not readily biodegradable.  Biodegradation: 0 %  Exposure time: 28 d
SAFETY DATA SHEET

Sulfadiazine (20%) / Trimethoprim (4%) Liquid Formulation

Version 7.0  Revision Date: 2021/08/27  SDS Number: 1737572-00013  Date of last issue: 2021/03/03

Method: OECD Test Guideline 314

2,2’-Iminodiethanol:

<table>
<thead>
<tr>
<th>Biodegradability</th>
<th>Result: Readily biodegradable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biodegradation:</td>
<td>93 %</td>
</tr>
<tr>
<td>Exposure time:</td>
<td>28 d</td>
</tr>
<tr>
<td>Method:</td>
<td>OECD Test Guideline 301F</td>
</tr>
</tbody>
</table>

Polyethylene glycol sorbitan monolaurate:

<table>
<thead>
<tr>
<th>Biodegradability</th>
<th>Result: Readily biodegradable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biodegradation:</td>
<td>&gt; 60 %</td>
</tr>
<tr>
<td>Exposure time:</td>
<td>28 d</td>
</tr>
</tbody>
</table>

Bioaccumulative potential

Components:

Sulfadiazine:

| Partition coefficient: n-octanol/water | log Pow: 0.12 |

Trimethoprim:

| Partition coefficient: n-octanol/water | log Pow: 0.91 |

2,2’-Iminodiethanol:

| Partition coefficient: n-octanol/water | log Pow: -2.46 |

Mobility in soil
No data available

Hazardous to the ozone layer
Not applicable

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 1824
Proper shipping name : SODIUM HYDROXIDE SOLUTION
Class : 8
Packing group : II
Labels : 8

IATA-DGR
UN/ID No. : UN 1824
Proper shipping name : Sodium hydroxide solution
Class : 8
Packing group : II
Labels : Corrosive
Packing instruction (cargo aircraft) : 855
Packing instruction (passenger aircraft) : 851

IMDG-Code
UN number : UN 1824
Proper shipping name : SODIUM HYDROXIDE SOLUTION
(Sulfadiazine, Trimethoprim)
Class : 8
Packing group : II
Labels : 8
EmS Code : F-A, S-B
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
Refer to section 15 for specific national regulation.

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

Related Regulations

Fire Service Law
Not applicable to dangerous materials / designated flammables.

Chemical Substance Control Law
Priority Assessment Chemical Substance

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diethanolamine</td>
<td>91</td>
</tr>
<tr>
<td>Mono(or poly)ether of (mono ester of anhydro(or dianhydro)glucitol and dodecanoic acid) and alpha-hydro-omega-hydroxy(poly(oxyethylene)</td>
<td>222</td>
</tr>
</tbody>
</table>
Industrial Safety and Health Law

Harmful Substances Prohibited from Manufacture
Not applicable

Harmful Substances Required Permission for Manufacture
Not applicable

Substances Prevented From Impairment of Health
Not applicable

Circular concerning Information on Chemicals having Mutagenicity - Annex 2: Information on Existing Chemicals having Mutagenicity
Not applicable

Circular concerning Information on Chemicals having Mutagenicity - Annex 1: Information on Notified Substances having Mutagenicity
Not applicable

Substances Subject to be Notified Names
Article 57-2 (Enforcement Order Table 9)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Number</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide</td>
<td>319</td>
<td>&gt;=1 - &lt;10</td>
</tr>
<tr>
<td>Diethanolamine</td>
<td>219</td>
<td>&gt;=0.1 - &lt;1</td>
</tr>
</tbody>
</table>

Substances Subject to be Indicated Names
Article 57 (Enforcement Order Article 18)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide</td>
<td>319</td>
</tr>
</tbody>
</table>

Ordinance on Prevention of Hazards Due to Specified Chemical Substances
Not applicable

Ordinance on Prevention of Lead Poisoning
Not applicable

Ordinance on Prevention of Tetraalkyl Lead Poisoning
Not applicable

Ordinance on Prevention of Organic Solvent Poisoning
Not applicable

Enforcement Order of the Industrial Safety and Health Law - Attached table 1 (Dangerous Substances)
Not applicable

Poisonous and Deleterious Substances Control Law
Not applicable

Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof
Not applicable

High Pressure Gas Safety Act
Not applicable
Explosive Control Law
Not applicable

Vessel Safety Law
Corrosive substances (Article 2 and 3 of rules on shipping and storage of dangerous goods and its Attached Table 1)

Aviation Law
Corrosive substances (Article 194 of The Enforcement Rules of Aviation Law and its Attached Table 1)

Marine Pollution and Sea Disaster Prevention etc Law
Bulk transportation : Noxious liquid substance(Category Z)

Marine Pollution and Sea Disaster Prevention etc Law
Pack transportation : Classified as marine pollutant

Narcotics and Psychotropics Control Act
Narcotic or Psychotropic Raw Material (Export / Import Permission)
Not applicable
Specific Narcotic or Psychotropic Raw Material (Export / Import permission)
Not applicable

Waste Disposal and Public Cleansing Law
Industrial waste

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.

Date format : yyyy/mm/dd

Full text of other abbreviations
ACGIH : USA. ACGIH Threshold Limit Values (TLV)

ACGIH / TWA : 8-hour, time-weighted average
ACGIH / C : Ceiling limit
JP OEL JSOH / OEL-C : Occupational Exposure Limit-Ceiling
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.