1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Oxytetracycline 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 : Aerosol containing a liquefied gas
Colour : blue
Odour : solvent-like

Flammable aerosol. Pressurised container: May burst if heated. May cause an allergic skin reaction. Causes serious eye irritation. May cause drowsiness or dizziness. May damage the unborn child. Very toxic to aquatic life with long lasting effects.

GHS Classification

Aerosols : Category 2
Serious eye damage/eye irritation : Category 2A
Skin sensitisation : Category 1
Reproductive toxicity : Category 1A
Specific target organ toxicity - single exposure : Category 3
Short-term (acute) aquatic hazard : Category 1
Long-term (chronic) aquatic hazard : Category 1

GHS label elements
Oxytetracycline Formulation

Hazard pictograms:

Signal word: Danger

Hazard statements:
- H223 Flammable aerosol.
- H229 Pressurised container: May burst if heated.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H336 May cause drowsiness or dizziness.
- H360D May damage the unborn child.
- 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.
- P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
- P211 Do not spray on an open flame or other ignition source.
- P261 Avoid breathing spray.
- P264 Wash skin thoroughly after handling.
- P271 Use only outdoors or in a well-ventilated area.
- P272 Contaminated work clothing should not be allowed out of the workplace.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

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.
- P333 + P313 If skin irritation or rash 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.
- P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.
SAFETY DATA SHEET
according to GB/T 16483 and GB/T 17519

Oxytetracycline Formulation

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

Physical and chemical hazards
Flammable aerosol. Pressurised container: May burst if heated.

Health hazards
Causes serious eye irritation. May cause an allergic skin reaction. May damage the unborn child. May cause drowsiness or dizziness.

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

Other hazards which do not result in classification
May displace oxygen and cause rapid suffocation.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substance / Mixture</th>
<th>Mixture</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical name</td>
</tr>
<tr>
<td>Butane</td>
</tr>
<tr>
<td>Propan-2-ol</td>
</tr>
<tr>
<td>Isobutane</td>
</tr>
<tr>
<td>Propane</td>
</tr>
<tr>
<td>Oxytetracycline</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. Remove 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: Gastrointestinal disturbance May cause an allergic skin reaction.
SAFETY DATA SHEET
according to GB/T 16483 and GB/T 17519

Oxytetracycline Formulation

Version 3.1
Revision Date: 2020/03/23
SDS Number: 671604-00011
Date of last issue: 2019/09/13
Date of first issue: 2016/05/12

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:
Flash back possible over considerable distance.
Vapours may form explosive mixtures with air.
Exposure to combustion products may be a hazard to health.
If the temperature rises there is danger of the vessels bursting due to the high vapor pressure.

Hazardous combustion products:
Carbon oxides

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

Special protective equipment for 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:
Evacuate personnel to safe areas.
Remove all sources of ignition.
Ventilate the area.
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:
Non-sparking tools should be used.
Soak up with inert absorbent material.
Suppress (knock down) gases/vapours/mists with a water
spray jet. For large spills, provide dyking or other appropriate contain-
ment 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 absor-
bent.
Local or national regulations may apply to releases and dis-
posal of this material, as well as those materials and items
employed in the cleanup of releases. You will need to deter-
mine 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.
If advised by assessment of the local exposure potential, use
only in an area equipped with explosion-proof exhaust ventila-
tion.

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 as-
essment
Keep container tightly closed.
Keep away from heat and sources of ignition.
Take precautionary measures against static discharges.
Take care to prevent spills, waste and minimize release to the
environment.
Do not spray on an open flame or other ignition source.

Avoidance of contact : Oxidizing agents

Storage
Conditions for safe storage : Store locked up.
Keep tightly closed.
Keep in a cool, well-ventilated place.
Store in accordance with the particular national regulations.
Do not pierce or burn, even after use.
Keep cool. Protect from sunlight.

Materials to avoid : Do not store with the following product types:
Self-reactive substances and mixtures
Organic peroxides
Oxidizing agents
Flammable liquids
Pyrophoric liquids
Pyrophoric solids
Self-heating substances and mixtures
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>Butane</td>
<td>106-97-8</td>
<td>STEL</td>
<td>1,000 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Propan-2-ol</td>
<td>67-63-0</td>
<td>PC-TWA</td>
<td>350 mg/m³</td>
<td>GBZ 2.1-2007</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PC-STEL</td>
<td>700 mg/m³</td>
<td>GBZ 2.1-2007</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>200 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>400 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Isobutane</td>
<td>75-28-5</td>
<td>STEL</td>
<td>1,000 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Oxytetracycline</td>
<td>79-57-2</td>
<td>TWA</td>
<td>500 µg/m³ (OEB 2)</td>
<td>Internal</td>
</tr>
</tbody>
</table>

Further information: Skin sensitisation

Wipe limit 100 µg/100 cm² Internal

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>Propan-2-ol</td>
<td>67-63-0</td>
<td>Acetone</td>
<td>Urine</td>
<td>End of shift at end of work-week</td>
<td>40 mg/l</td>
<td>ACGIH BEI</td>
</tr>
</tbody>
</table>

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            | Self-contained breathing apparatus |
| Skin and body protection | Skin should be washed after contact. |
| Hand protection        |                                  |

Remarks: Take note that the product is flammable, which may impact the selection of hand protection.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Aerosol containing a liquefied gas
Oxytetracycline Formulation

Colour : blue
Odour : solvent-like
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 : -80 °C
Evaporation rate : No data available
Flammability (solid, gas) : Flammable aerosol.
Flammability (liquids) : Not applicable
Upper explosion limit / Upper flammability limit : 9.5 % (V)
Lower explosion limit / Lower flammability limit : 1.8 % (V)
Vapour pressure : No data available
Relative vapour density : No data available
Relative density : No data available
Density : 0.92 g/cm³
Solubility(ies)
  Water solubility : No data available
Partition coefficient: n-octanol/water : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Viscosity
  Viscosity, kinematic : No data available
Explosive properties : Not explosive
Oxidizing properties : The substance or mixture is not classified as oxidizing.
10. STABILITY AND REACTIVITY

Reactivity: Not classified as a reactivity hazard.
Chemical stability: Stable under normal conditions.
Possibility of hazardous reactions:
- Flammable aerosol.
- Vapours may form explosive mixture with air.
  If the temperature rises there is danger of the vessels bursting due to the high vapor pressure.
  Can react with strong oxidizing agents.

Conditions to avoid: Heat, flames and sparks.
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.

Components:

Butane:
Acute inhalation toxicity: LC50 (Rat): 570000 ppm
  Exposure time: 15 min
  Test atmosphere: gas
  Remarks: Based on data from similar materials

Propan-2-ol:
Acute oral toxicity: LD50 (Rat): > 5,000 mg/kg
Acute inhalation toxicity: LC50 (Rat): > 25 mg/l
  Exposure time: 6 h
  Test atmosphere: vapour

Acute dermal toxicity: LD50 (Rabbit): > 5,000 mg/kg

Isobutane:
Acute inhalation toxicity: LC50 (Rat): 570000 ppm
  Exposure time: 15 min
  Test atmosphere: gas

Propane:
Acute inhalation toxicity: LC50 (Rat): > 800000 ppm
  Exposure time: 15 min
Test atmosphere: gas

Oxytetracycline:

Acute oral toxicity: LD50 (Rat): 4,800 mg/kg
LD50 (Mouse): 2,240 mg/kg
Remarks: Evidence of phototoxicity was observed

Acute inhalation toxicity: Remarks: No data available

Acute dermal toxicity: Remarks: No data available

Acute toxicity (other routes of administration): LD50 (Rat): 4,840 mg/kg
Application Route: Intramuscular
LD50 (Mouse): 3,500 mg/kg
Application Route: Subcutaneous

Skin corrosion/irritation
Not classified based on available information.

Components:

Propan-2-ol:
Species: Rabbit
Result: No skin irritation

Oxytetracycline:
Remarks: No data available

Serious eye damage/eye irritation
Causes serious eye irritation.

Components:

Propan-2-ol:
Species: Rabbit
Result: Irritation to eyes, reversing within 21 days

Oxytetracycline:
Remarks: No data available

Respiratory or skin sensitisation

Skin sensitisation
May cause an allergic skin reaction.

Respiratory sensitisation
Not classified based on available information.
Components:

Propan-2-ol:
Test Type : Buehler Test
Exposure routes : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : negative

Oxytetracycline:
Test Type : Human repeat insult patch test (HRIPT)
Result : Sensitiser

Germ cell mutagenicity
Not classified based on available information.

Components:

Butane:
Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative
Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Rat
Application Route: inhalation (gas)
Method: OECD Test Guideline 474
Result: negative
Remarks: Based on data from similar materials

Propan-2-ol:
Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Test Type: In vitro mammalian cell gene mutation test
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Result: negative

Isobutane:
Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
## Oxytetracycline Formulation

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Result</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial reverse mutation assay (AMES)</td>
<td>negative</td>
<td>Based on data from similar materials</td>
</tr>
<tr>
<td>Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)</td>
<td>negative</td>
<td>Based on data from similar materials</td>
</tr>
<tr>
<td>Species: Rat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Application Route: inhalation (gas)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Method: OECD Test Guideline 474</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metabolic activation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test system: Chinese hamster ovary cells</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sister chromatid exchange assay</td>
<td>equivocal</td>
<td></td>
</tr>
<tr>
<td>Test system: in vivo assay</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Species: Mouse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Application Route: Oral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Micronucleus test</td>
<td>equivocal</td>
<td></td>
</tr>
<tr>
<td>Species: Mouse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Application Route: Intraperitoneal injection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Result: negative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remarks: Based on data from similar materials</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Propane:

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Result</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial reverse mutation assay (AMES)</td>
<td>negative</td>
<td>Based on data from similar materials</td>
</tr>
<tr>
<td>Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)</td>
<td>negative</td>
<td>Based on data from similar materials</td>
</tr>
<tr>
<td>Species: Rat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Application Route: inhalation (gas)</td>
<td></td>
<td></td>
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<tr>
<td>Method: OECD Test Guideline 474</td>
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<tr>
<td>Metabolic activation</td>
<td></td>
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</tr>
<tr>
<td>Test system: Chinese hamster ovary cells</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sister chromatid exchange assay</td>
<td>equivocal</td>
<td></td>
</tr>
<tr>
<td>Test system: Chromosomal aberration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Species: Mouse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Application Route: Oral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Micronucleus test</td>
<td>equivocal</td>
<td></td>
</tr>
<tr>
<td>Species: Mouse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Application Route: Intraperitoneal injection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Result: negative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remarks: Based on data from similar materials</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Oxytetracycline:

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Result</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microbial mutagenesis assay (Ames test)</td>
<td>negative</td>
<td></td>
</tr>
<tr>
<td>Mouse Lymphoma</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metabolic activation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test system: Chinese hamster ovary cells</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sister chromatid exchange assay</td>
<td>equivocal</td>
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<tr>
<td>Test system: Chromosomal aberration</td>
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</tr>
<tr>
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<tr>
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<td>Result: negative</td>
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<td></td>
</tr>
<tr>
<td>Remarks: Based on data from similar materials</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Oxytetracycline Formulation

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

Carcinogenicity
Not classified based on available information.

Components:

Propan-2-ol:
Species : Rat
Application Route : inhalation (vapour)
Exposure time : 104 weeks
Method : OECD Test Guideline 451
Result : negative

Oxytetracycline:
Species : Mouse
Application Route : Oral
Exposure time : 104 weeks
Result : negative

Species : Rat
Application Route : Oral
Exposure time : 103 weeks
Result : equivocal
Target Organs : Adrenal gland, Pituitary gland
Remarks : The mechanism or mode of action may not be relevant in humans.

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

Reproductive toxicity
May damage the unborn child.

Components:

Butane:
Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: inhalation (gas)
Method: OECD Test Guideline 422
Result: negative

Effects on foetal development : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: inhalation (gas)
Method: OECD Test Guideline 422
Result: negative
**Propan-2-ol:**

**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: Ingestion
- Result: negative

**Isobutane:**

**Effects on fertility**
- Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
- Species: Rat
- Application Route: inhalation (gas)
- Method: OECD Test Guideline 422
- Result: negative

**Effects on foetal development**
- Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
- Species: Rat
- Application Route: inhalation (gas)
- Method: OECD Test Guideline 422
- Result: negative

**Propane:**

**Effects on fertility**
- Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
- Species: Rat
- Application Route: inhalation (gas)
- Method: OECD Test Guideline 422
- Result: negative

**Effects on foetal development**
- Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
- Species: Rat
- Application Route: inhalation (gas)
- Method: OECD Test Guideline 422
- Result: negative

**Oxytetracycline:**

**Effects on fertility**
- Test Type: Two-generation reproduction toxicity study
- Species: Rat
- Application Route: Oral
- Fertility: NOAEL: 18 mg/kg body weight
- Result: No effects on fertility, No effect on reproduction capacity, No significant adverse effects were reported

**Effects on foetal development**
- Test Type: Embryo-foetal development
- Species: Rat
- Application Route: Oral
## Embryo-foetal toxicity

**LOAEL**: 48 mg/kg body weight  
**Result**: Postimplantation loss, Skeletal malformations

**Test Type**: Embryo-foetal development  
**Species**: Rat  
**Application Route**: Oral  
**General Toxicity Maternal**: LOAEL: 1,200 mg/kg body weight  
**Embryo-foetal toxicity**: NOAEL: 1,500 mg/kg body weight  
**Result**: No teratogenic effects  
**Remarks**: Maternal toxicity observed.

**Test Type**: Embryo-foetal development  
**Species**: Mouse  
**Application Route**: Oral  
**General Toxicity Maternal**: LOAEL: 1,325 mg/kg body weight  
**Embryo-foetal toxicity**: NOAEL: 2,100 mg/kg body weight  
**Result**: No teratogenic effects  
**Remarks**: Maternal toxicity observed.

**Test Type**: Embryo-foetal development  
**Species**: Rabbit  
**Application Route**: Intramuscular  
**Embryo-foetal toxicity**: LOAEL: 41.5 mg/kg body weight  
**Result**: Postimplantation loss, No foetal abnormalities

**Test Type**: Embryo-foetal development  
**Species**: Dog  
**Application Route**: Intramuscular  
**Embryo-foetal toxicity**: LOAEL: 20.75 mg/kg body weight  
**Result**: Skeletal and visceral variations, Postimplantation loss.

## Reproductive toxicity - Assessment

Positive evidence of adverse effects on development from human epidemiological studies.

## STOT - single exposure

May cause drowsiness or dizziness.

### Components:

#### Butane:

**Assessment**: May cause drowsiness or dizziness.  
**Remarks**: Based on data from similar materials

#### Propan-2-ol:

**Assessment**: May cause drowsiness or dizziness.

#### Isobutane:

**Assessment**: May cause drowsiness or dizziness.

#### Propane:

**Assessment**: May cause drowsiness or dizziness.
**STOT - repeated exposure**
Not classified based on available information.

**Repeated dose toxicity**

**Components:**

**Butane:**
- Species: Rat
- NOAEL: \( \geq 9000 \text{ ppm} \)
- Application Route: inhalation (gas)
- Exposure time: 6 Weeks
- Method: OECD Test Guideline 422

**Propan-2-ol:**
- Species: Rat
- NOAEL: 12.5 mg/l
- Application Route: inhalation (vapour)
- Exposure time: 104 Weeks

**Isobutane:**
- Species: Rat
- NOAEL: \( \geq 9000 \text{ ppm} \)
- Application Route: inhalation (gas)
- Exposure time: 6 Weeks
- Method: OECD Test Guideline 422

**Propane:**
- Species: Rat
- NOAEL: 7.214 mg/l
- Application Route: inhalation (gas)
- Exposure time: 6 Weeks
- Method: OECD Test Guideline 422

**Oxytetracycline:**
- Species: Rat
- LOAEL: 198 mg/kg
- Application Route: Oral
- Exposure time: 13 Weeks
- Target Organs: Bone
- Remarks: No significant adverse effects were reported

- Species: Mouse
  - LOAEL: 7,990 mg/kg
  - Application Route: Oral
  - Exposure time: 13 Weeks
  - Target Organs: Bone
  - Remarks: No significant adverse effects were reported

- Species: Dog
SAFETY DATA SHEET
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NOAEL: 125 mg/kg
LOAEL: 250 mg/kg
Application Route: Oral
Exposure time: 12 Months
Target Organs: Testis
Remarks: Significant toxicity observed in testing

Species: Rat
NOAEL: 40 mg/kg
LOAEL: 100 mg/kg
Application Route: Intraperitoneal
Exposure time: 14 Days
Target Organs: Kidney

Aspiration toxicity
Not classified based on available information.

Experience with human exposure

Components:
Oxytetracycline:
Ingestion: Symptoms: Gastrointestinal disturbance, tooth discoloration
Remarks: May cause birth defects.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:
Propan-2-ol:
Toxicity to fish: LC50 (Pimephales promelas (fathead minnow)): 9,640 mg/l
Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): > 10,000 mg/l
Exposure time: 24 h
Toxicity to microorganisms: EC50 (Pseudomonas putida): > 1,050 mg/l
Exposure time: 16 h

Oxytetracycline:
Toxicity to fish: LC50 (Oryzias latipes (Japanese medaka)): 110 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 621 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

EC50 (Daphnia magna (Water flea)): 669 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants:

- **EC50 (Anabaena):** 0.032 mg/l
  - Exposure time: 72 h
- **NOEC (Anabaena):** 0.0031 mg/l
  - Exposure time: 72 h

M-Factor (Acute aquatic toxicity):

- **M-Factor:** 10

M-Factor (Chronic aquatic toxicity):

- **M-Factor:** 10

Toxicity to microorganisms:

- **EC50:** 17.9 mg/l
  - Exposure time: 3 h
  - Test Type: Respiration inhibition
  - Method: OECD Test Guideline 209
- **NOEC:** 0.2 mg/l
  - Exposure time: 3 h
  - Test Type: Respiration inhibition
  - Method: OECD Test Guideline 209

### Persistence and degradability

#### Components:

**Butane:**

- **Biodegradability:** Result: Readily biodegradable.
  - Remarks: Based on data from similar materials

**Propan-2-ol:**

- **Biodegradability:** Result: rapidly degradable

**BOD/COD:**

- **BOD:** 1.19 (BOD5)
- **COD:** 2.23
  - **BOD/COD:** 53 %

**Isobutane:**

- **Biodegradability:** Result: Readily biodegradable.
  - Remarks: Based on data from similar materials

**Propane:**

- **Biodegradability:** Result: Readily biodegradable.
  - Remarks: Based on data from similar materials

### Bioaccumulative potential

#### Components:

**Butane:**

- **Partition coefficient: n-octanol/water:** log Pow: 2.89

**Propan-2-ol:**
Oxytetracycline Formulation

Partition coefficient: n-octanol/water
\[ \log P_{\text{ow}} = 0.05 \]

Isobutane:
Partition coefficient: n-octanol/water
\[ \log P_{\text{ow}} = 2.8 \]

Propane:
Partition coefficient: n-octanol/water
\[ \log P_{\text{ow}} = 2.36 \]

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. Empty containers retain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death. If not otherwise specified: Dispose of as unused product.
Please ensure aerosol cans are sprayed completely empty (including propellant)

14. TRANSPORT INFORMATION

International Regulations

UNRTDG
UN number : UN 1950
Proper shipping name : AEROSOLS
Class : 2.1
Packing group : Not assigned by regulation
Labels : 2.1

IATA-DGR
UN/ID No. : UN 1950
Proper shipping name : Aerosols, flammable
Class : 2.1
Packing group : Not assigned by regulation
Labels : Flammable Gas
Packing instruction (cargo aircraft) : 203
Packing instruction (passenger aircraft) : 203

IMDG-Code
UN number : UN 1950
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Proper shipping name: AEROSOLS (Oxytetracycline)
Class: 2.1
Packing group: Not assigned by regulation
Labels: 2.1
EmS Code: F-D, S-U
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 1950
Proper shipping name: AEROSOLS
Class: 2.1
Packing group: Not assigned by regulation
Labels: 2.1

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

Regulations on Safety Management of Hazardous Chemicals
Catalogue of Hazardous Chemicals: Listed

Identification of Major Hazard Installations for Hazardous Chemicals (GB 18218)

<table>
<thead>
<tr>
<th>No. / Code</th>
<th>Chemical name / Category</th>
<th>Threshold quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>W3</td>
<td>Aerosols</td>
<td>150 t</td>
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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
SAFETY DATA SHEET  
according to GB/T 16483 and GB/T 17519

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Date format : yyyy/mm/dd

**Full text of other abbreviations**

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)

ACGIH / TWA : 8-hour, time-weighted average
ACGIH / STEL : Short-term exposure limit
GBZ 2.1-2007 / PC-TWA : Permissible concentration - time weighted average

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; IEC - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

**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
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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