SAFETY DATA SHEET

Enrofloxacin (2.5%) Formulation

1. PRODUCT AND COMPANY IDENTIFICATION

Chemical product name: Enrofloxacin (2.5%) Formulation

Supplier's company name, address and phone number

Company name of supplier: MSD
Address: Kumagaya, Saitama Prefecture, Xicheng 810 MSD Co., Ltd. Menuma factory
Telephone: 048-588-8411
E-mail address: EHSDATASTEWARD@msd.com
Emergency telephone number: +1-908-423-6000

Recommended use of the chemical and restrictions on use

Recommended use: Veterinary product

2. HAZARDS IDENTIFICATION

GHS classification of chemical product

Specific target organ toxicity - repeated exposure: Category 2 (cartilage, Testis)

Short-term (acute) aquatic hazard: Category 1

Long-term (chronic) aquatic hazard: Category 1

GHS label elements

Hazard pictograms: 

Signal word: Warning

Hazard statements: H373 May cause damage to organs (cartilage, Testis) through prolonged or repeated exposure. H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements: 

Prevention: 
P260 Do not breathe mist or vapours. P273 Avoid release to the environment.

Response: 
P314 Get medical advice/attention if you feel unwell. P391 Collect spillage.
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

<table>
<thead>
<tr>
<th>Substance / Mixture</th>
<th>Components</th>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
<th>ENCS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixture</td>
<td>Enrofloxacin</td>
<td>93106-60-6</td>
<td>&gt;= 2.5 - &lt; 3</td>
<td>3-1011</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Benzyl alcohol</td>
<td>100-51-6</td>
<td>&gt;= 1 - &lt; 10</td>
<td></td>
<td></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 soap and plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

In case of eye contact : Flush eyes with water as a precaution. Get medical attention if irritation develops and persists.

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 : May cause 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 when the potential for exposure exists (see section 8).

Notes to physician : Treat symptomatically and supportively.

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
- **Hazardous combustion products**: Exposure to combustion products may be a hazard to health. 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
- 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**: Use only with adequate ventilation.
- **Advice on safe handling**: Do not breathe mist or vapours. Do not swallow. Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Wash skin thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure as-
sessment
Do not eat, drink or smoke when using this product.
Take care to prevent spills, waste and minimize release to the environment.

Avoidance of contact:
Oxidizing agents

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 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

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Reference concentration / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrofloxacin</td>
<td>93106-60-6</td>
<td>TWA</td>
<td>0.2 mg/m³ (OEL 2)</td>
<td>Internal</td>
</tr>
<tr>
<td>Benzyl alcohol</td>
<td>100-51-6</td>
<td>OEL-C</td>
<td>25 mg/m³</td>
<td>JP OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>JSOH</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Further information: Skin sensitizing agent; Group 2 substances which probably induce allergic reactions in humans.</td>
<td></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:
Combined particulates and organic vapour type
Hand protection:
Material: 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: No data available

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

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: No data available

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
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

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

- Acute inhalation toxicity: Acute toxicity estimate: > 5 mg/l
  Exposure time: 4 h
  Test atmosphere: dust/mist
  Method: Calculation method

Components:

Enrofloxacin:
- Acute oral toxicity: LD50 (Rabbit): 500 - 800 mg/kg
  LD50 (Rat): > 5,000 mg/kg
**SAFETY DATA SHEET**

**Enrofloxacin (2.5%) Formulation**

<table>
<thead>
<tr>
<th>Version</th>
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<tr>
<td>7.0</td>
<td>2021/08/27</td>
<td>633918-00015</td>
<td>2020/10/10</td>
<td>2016/04/27</td>
</tr>
</tbody>
</table>

**LD50 (Mouse):** > 5,000 mg/kg

**Acute dermal toxicity:** LD50 (Rabbit): > 2,000 mg/kg

### Benzyl alcohol:

**Acute oral toxicity:** LD50 (Rat): 1,620 mg/kg

**Acute inhalation toxicity:** LC50 (Rat): > 4.178 mg/l
- Exposure time: 4 h
- Test atmosphere: dust/mist
- Method: OECD Test Guideline 403

**Skin corrosion/irritation**
Not classified based on available information.

**Components:**

**Enrofloxacin:**
- **Result:** No skin irritation

**Benzyl alcohol:**
- **Species:** Rabbit
- **Method:** OECD Test Guideline 404
- **Result:** No skin irritation

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

**Components:**

**Enrofloxacin:**
- **Result:** Mild eye irritation

**Benzyl alcohol:**
- **Species:** Rabbit
- **Result:** Irritation to eyes, reversing within 21 days
- **Method:** OECD Test Guideline 405

**Respiratory or skin sensitisation**

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

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

**Components:**

**Enrofloxacin:**
- **Test Type:** Maximisation Test
- **Exposure routes:** Dermal
SAFETY DATA SHEET
Enrofloxacin (2.5%) Formulation

Version: 7.0  Revision Date: 2021/08/27  SDS Number: 633918-00015  Date of last issue: 2020/10/10  Date of first issue: 2016/04/27

Species: Guinea pig  Result: Not a skin sensitizer.

Benzyl alcohol:
Test Type: Maximisation Test  Exposure routes: Skin contact  Species: Guinea pig  Method: OECD Test Guideline 406  Result: negative

Germ cell mutagenicity
Not classified based on available information.

Components:
Enrofloxacin:
Genotoxicity in vitro: Test Type: Chromosomal aberration  Result: positive
Genotoxicity in vivo: Test Type: Micronucleus test  Species: Mouse  Result: negative
  Test Type: Mammalian bone marrow sister chromatid exchange  Species: Hamster  Result: negative
  Test Type: Chromosomal aberration  Species: Rat  Result: negative

Benzyl alcohol:
Genotoxicity in vitro: Test Type: Bacterial reverse mutation assay (AMES)  Result: negative
Genotoxicity in vivo: Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  Species: Mouse  Application Route: Intraperitoneal injection  Result: negative

Carcinogenicity
Not classified based on available information.

Components:
Enrofloxacin:
Species: Rat  Application Route: Oral  Exposure time: 2 Years  Result: negative
**SAFETY DATA SHEET**

**Enrofloxacin (2.5%) Formulation**

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- **Species**: Mouse  
- **Application Route**: Oral  
- **Exposure time**: 2 Years  
- **Result**: negative

**Benzyl alcohol**:

- **Species**: Mouse  
- **Application Route**: Ingestion  
- **Exposure time**: 103 weeks  
- **Method**: OECD Test Guideline 451  
- **Result**: negative

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

**Components**:

**Enrofloxacin**:

- **Effects on fertility**: Test Type: Two-generation study  
  - Species: Rat  
  - Application Route: Oral  
  - Fertility: LOAEL: 15 mg/kg body weight  
  - Result: Effects on fertility, alteration in sperm morphology

- **Effects on foetal development**: Test Type: Development  
  - Species: Rat  
  - Application Route: Oral  
  - Developmental Toxicity: LOAEL: 210 mg/kg body weight  
  - Result: Reduced foetal weight, No teratogenic effects  
  - Remarks: Maternal toxicity observed.

  - Test Type: Development  
    - Species: Rabbit  
    - Application Route: Oral  
    - Developmental Toxicity: NOAEL: 25 mg/kg body weight  
    - Result: No fetotoxicity, No teratogenic effects

**Reproductive toxicity - Assessment**: Some evidence of adverse effects on sexual function and fertility, based on animal experiments.

**Benzyl alcohol**:

- **Effects on fertility**: Test Type: Fertility/early embryonic development  
  - Species: Rat  
  - Application Route: Ingestion  
  - Result: negative  
  - Remarks: Based on data from similar materials

- **Effects on foetal development**: Test Type: Embryo-foetal development  
  - Species: Mouse  
  - Application Route: Ingestion  
  - Result: negative
STOT - single exposure
Not classified based on available information.

STOT - repeated exposure
May cause damage to organs (cartilage, Testis) through prolonged or repeated exposure.

Components:

Enrofloxacin:
- Target Organs: cartilage, Testis
- Assessment: Causes damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Components:

Enrofloxacin:
- Species: Rat
  - NOAEL: 36 mg/kg
  - LOAEL: 150 mg/kg
  - Application Route: Oral
  - Exposure time: 13 Weeks
  - Target Organs: Testis
- Species: Dog
  - NOAEL: 3 mg/kg
  - LOAEL: 9.6 mg/kg
  - Application Route: Oral
  - Exposure time: 13 Weeks
  - Target Organs: cartilage
- Species: Cat
  - NOAEL: 25 mg/kg
  - Application Route: Oral
  - Exposure time: 30 Days
  - Remarks: No significant adverse effects were reported

Benzyl alcohol:
- Species: Rat
  - NOAEL: 1.072 mg/l
  - Application Route: inhalation (dust/mist/fume)
  - Exposure time: 28 Days
  - Method: OECD Test Guideline 412

Aspiration toxicity
Not classified based on available information.

Experience with human exposure

Components:

Enrofloxacin:
- Ingestion: Symptoms: Gastrointestinal disturbance, central nervous sys-
12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Enrofloxacin:

Toxicity to fish:
- LC50 (Lepomis macrochirus (Bluegill sunfish)): 79.5 mg/l
  Exposure time: 96 h
- LC50 (Oncorhynchus mykiss (rainbow trout)): > 196 mg/l
  Exposure time: 96 h
- LC50 (Oryzias latipes (Japanese medaka)): > 100 mg/l
  Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates:
- EC50 (Hyalella azteca (Amphipod)): > 206 mg/l
  Exposure time: 96 h
- EC50 (Daphnia magna (Water flea)): 79.9 mg/l
  Exposure time: 48 h

Toxicity to algae/aquatic plants:
- EC50 (Pseudokirchneriella subcapitata (green algae)): 3.1 mg/l
  Exposure time: 72 h
- EC50 (Microcystis aeruginosa (blue-green algae)): 0.049 mg/l
  Exposure time: 5 d

M-Factor (Acute aquatic toxicity):
- 10

M-Factor (Chronic aquatic toxicity):
- NOEC (Daphnia magna (Water flea)): 9.8 mg/l
  Exposure time: 21 d
- LOEC (Daphnia magna (Water flea)): 15 mg/l
  Exposure time: 21 d
- 10

Benzyl alcohol:

Toxicity to fish:
- LC50 (Pimephales promelas (fathead minnow)): 460 mg/l
  Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates:
- EC50 (Daphnia magna (Water flea)): 230 mg/l
  Exposure time: 48 h
  Method: OECD Test Guideline 202

Toxicity to algae/aquatic:
- EC50 (Pseudokirchneriella subcapitata (green algae)): 770
### SAFETY DATA SHEET

**Enrofloxacin (2.5%) Formulation**

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</table>

#### Exposure to plants
- **mg/l**
- **Exposure time:** 72 h
- **Method:** OECD Test Guideline 201

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

#### Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):
- **NOEC (Daphnia magna (Water flea)):** 51 mg/l
- **Exposure time:** 21 d
- **Method:** OECD Test Guideline 211

#### Persistence and degradability

**Components:**

**Benzyl alcohol:**
- **Biodegradability:** Result: Readily biodegradable.
- **Biodegradation:** 92 - 96 %
- **Exposure time:** 14 d

**Bioaccumulative potential

**Components:**

**Enrofloxacin:**
- **Partition coefficient: n-octanol/water**
  - log Pow: 0.5

**Benzyl alcohol:**
- **Partition coefficient: n-octanol/water**
  - log Pow: 1.05

#### Mobility in soil

**Components:**

**Enrofloxacin:**
- **Distribution among environmental compartments**
  - Koc: 5.55

#### 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 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
                     (Enrofloxacin)
Class : 9
Packing group : III
Labels : 9

IATA-DGR
UN/ID No. : UN 3082
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.
                       (Enrofloxacin)
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.
                      (Enrofloxacin)
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
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
Not applicable for Specified Chemical Substance, Monitoring Chemical Substance and Priority Assessment Chemical Substance.

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

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Number</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzyl alcohol</td>
<td>530 2</td>
<td>&gt;=1 - &lt;10</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>benzyl alcohol</td>
<td>530 2</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
Miscellaneous dangerous substances and articles (Article 2 and 3 of rules on shipping and storage of dangerous goods and its Attached Table 1)

Aviation Law
Miscellaneous dangerous substances and articles (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)
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
JP OEL JSOH / OEL-C : Occupational Exposure Limit-Ceiling

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

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user’s end product, if applicable.

JP / EN