1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Levamisole / Oxyclozanide Formulation

Manufacturer or supplier's details
Company : MSD
Address : JL Raya Pandaan KM. 48, Pandaan, Jawa Timur - Indonesia
Telephone : 908-740-4000
Emergency telephone number : 1-908-423-6000
E-mail address : EHSDATASTEWARD@msd.com

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

2. HAZARDS IDENTIFICATION

GHS Classification
Reproductive toxicity : Category 2
Long-term (chronic) aquatic hazard : Category 2

GHS label elements
Hazard pictograms : ![Warning]
Signal word : Warning
Hazard statements : H361d Suspected of damaging the unborn child.
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.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P391 Collect spillage.
SAFETY DATA SHEET

Levamisole / Oxyclozanide Formulation

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

Substance / Mixture : Mixture

Components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaolin</td>
<td>1332-58-7</td>
<td>&lt; 10</td>
</tr>
<tr>
<td>oxyclozanide</td>
<td>2277-92-1</td>
<td>&gt;= 3 -&lt; 10</td>
</tr>
<tr>
<td>levamisole hydrochloride</td>
<td>16595-80-5</td>
<td>&gt;= 0.25 -&lt; 2.5</td>
</tr>
<tr>
<td>Citric acid</td>
<td>77-92-9</td>
<td>&lt; 10</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. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed : Suspected of damaging the unborn child.

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
SAFETY DATA SHEET

Levamisole / Oxytocanide Formulation

Unsuitable extinguishing media: None known.

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

Hazardous combustion products:
- Carbon oxides
- Silicon oxides
- Metal oxides
- Chlorine compounds
- 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

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 assessment. Do not eat, drink or smoke when using this product. Take care to prevent spills, waste and minimize release to the environment.

Conditions for safe storage: Keep in properly labelled containers. Store locked up. Store in accordance with the particular national regulations.

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

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>Kaolin</td>
<td>1332-58-7</td>
<td>NAB (Respirable)</td>
<td>2 mg/m³</td>
<td>ID OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Further information: Not classified as carcinogenic to humans. Not enough data to classify these materials as carcinogenic to humans or animals</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable particulate matter)</td>
<td>2 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td>oxyclozanide</td>
<td>2277-92-1</td>
<td>TWA</td>
<td>0.4 mg/m³ (OEB 2)</td>
<td>Internal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wipe limit</td>
<td>400 mg/100 cm²</td>
<td>Internal</td>
</tr>
<tr>
<td>levamisole hydrochloride</td>
<td>16595-80-5</td>
<td>TWA</td>
<td>20 µg/m³ (OEB 3)</td>
<td>Internal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wipe limit</td>
<td>200 µg/100 cm²</td>
<td>Internal</td>
</tr>
</tbody>
</table>

Further information: Skin

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. Containment technologies suitable for controlling compounds are required to control at source and to prevent migration of the compound to uncontrolled areas (e.g., open-face containment devices). Minimize open handling.

Personal protective equipment

Respiratory protection: If adequate local exhaust ventilation is not available or expo-
Filter type: Particulates type
Hand protection: Chemical-resistant gloves
Remarks: Consider double gloving.
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. Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces. Use appropriate degowning techniques to remove potentially contaminated clothing.
Hygiene measures: If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use. The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: liquid
Colour: No data available
Odour: No data available
Odour Threshold: No data available
pH: No data available
Melting point/freezing point: No data available
Initial boiling point and boiling range: No data available
Flash point: No data available
Evaporation rate: No data available
Flammability (solid, gas): Not applicable
Flammability (liquids): No data available
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

**Components:**

**Kaolin:**
- Acute oral toxicity: LD50 (Rat): > 5,000 mg/kg
  Remarks: Based on data from similar materials
- Acute inhalation toxicity: LC50 (Rat): > 2.07 mg/l
  Exposure time: 4 h
  Test atmosphere: dust/mist
  Assessment: The substance or mixture has no acute inhalation toxicity
  Remarks: Based on data from similar materials
- Acute dermal toxicity: LD50 (Rat): > 5,000 mg/kg
  Assessment: The substance or mixture has no acute dermal toxicity
  Remarks: Based on data from similar materials

**oxyclozanide:**
- Acute oral toxicity: LD50 (Rat): 3,519 mg/kg
  Target Organs: Central nervous system
- Acute toxicity (other routes of administration): LDLo (sheep): 10 mg/kg
  Application Route: Intravenous

**levamisole hydrochloride:**
- Acute oral toxicity: LD50 (Rat): 180 mg/kg
  LD50 (Mouse): 223 mg/kg
  LD50 (Rabbit): 458 mg/kg
- Acute inhalation toxicity: Remarks: No data available
- Acute dermal toxicity: Remarks: No data available

**Citric acid:**
- Acute oral toxicity: LD50 (Mouse): 5,400 mg/kg
- Acute dermal toxicity: LD50 (Rat): > 2,000 mg/kg
  Method: OECD Test Guideline 402
  Assessment: The substance or mixture has no acute dermal toxicity
Skin corrosion/irritation
Not classified based on available information.

Components:

Kaolin:
Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation
Remarks : Based on data from similar materials

oxyclozanide:
Remarks : Not classified due to lack of data.

levamisole hydrochloride:
Remarks : No data available

Citric acid:
Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation
Remarks : Based on data from similar materials

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

Components:

Kaolin:
Species : Rabbit
Result : No eye irritation
Remarks : Based on data from similar materials

oxyclozanide:
Remarks : Not classified due to lack of data.

levamisole hydrochloride:
Remarks : No data available

Citric acid:
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:

**oxyclozanide:**
- Exposure routes: Dermal
- Remarks: Not classified due to lack of data.

**levamisole hydrochloride:**
- Remarks: No data available

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

Components:

**oxyclozanide:**
- Genotoxicity in vitro:
  - Test Type: Bacterial reverse mutation assay (AMES)
    - Result: negative
  - Test Type: Chromosomal aberration
    - Test system: Human lymphocytes
    - Result: positive
  - Test Type: Mouse Lymphoma
    - Result: positive
- Genotoxicity in vivo:
  - Test Type: Micronucleus test
    - Species: Mouse
    - Application Route: Oral
    - Result: negative
  - Test Type: unscheduled DNA synthesis assay
    - Species: Rat
    - Cell type: Liver cells
    - Application Route: Oral
    - Result: negative
- Germ cell mutagenicity - Assessment: Weight of evidence does not support classification as a germ cell mutagen.

**levamisole hydrochloride:**
- Genotoxicity in vitro:
  - Test Type: Bacterial reverse mutation assay (AMES)
    - Result: negative
  - Test Type: Chromosome aberration test in vitro
    - Result: negative

**Citric acid:**
- Genotoxicity in vitro:
  - Test Type: Bacterial reverse mutation assay (AMES)
    - Result: negative
  - Test Type: in vitro micronucleus test
    - Result: positive
Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Genotoxicity in vivo
- Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
  - Species: Rat
  - Application Route: Ingestion
  - Result: negative

Carcinogenicity
Not classified based on available information.

**Components:**

**oxyclozanide:**
- Remarks: Not classified due to lack of data.

**levamisole hydrochloride:**
- Species: Mouse
- Application Route: Oral
- Exposure time: 2 Years
- NOAEL: 80 mg/kg body weight
- Remarks: No significant adverse effects were reported

- Species: Rat
- Application Route: Oral
- Exposure time: 2 Years
- NOAEL: 40 mg/kg body weight
- Remarks: No significant adverse effects were reported

**Reproductive toxicity**
Suspected of damaging the unborn child.

**Components:**

**oxyclozanide:**
- Effects on fertility
  - Test Type: Two-generation reproduction toxicity study
    - Species: Rat, male and female
    - Application Route: Oral
    - General Toxicity - Parent: NOAEL: 25 - 35 mg/kg body weight
    - Symptoms: Reduced body weight, No effects on embryofoetal and postnatal development
    - Result: No effects on fertility

  - Test Type: Two-generation reproduction toxicity study
    - Species: Rat
    - Application Route: Oral
    - General Toxicity - Parent: LOAEL: 75 - 100 mg/kg body weight
    - Symptoms: Reduced body weight, No effects on embryofoetal and postnatal development
    - Result: No effects on fertility
## Levamisole / Oxyclonazide Formulation

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Species</th>
<th>Application Route</th>
<th>Early Embryonic Development</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two-generation reproduction toxicity study</td>
<td>Rat</td>
<td>Oral</td>
<td>LOAEL: 75 - 100 mg/kg body weight</td>
<td>No fetotoxicity, No teratogenic effects</td>
</tr>
<tr>
<td>One-generation reproduction toxicity study</td>
<td>Rat</td>
<td>Oral</td>
<td>LOAEL: 80 - 160 mg/kg body weight</td>
<td>No fetotoxicity, No teratogenic effects, No effects on fertility</td>
</tr>
</tbody>
</table>

### Effects on foetal development
- **Test Type**: Development |
- **Species**: Rat |
- **Application Route**: Oral |
- **Developmental Toxicity**: NOAEL: 200 mg/kg body weight |
- **Result**: No fetotoxicity, No teratogenic effects |

- **Test Type**: Development |
- **Species**: Rat |
- **Application Route**: Oral |
- **General Toxicity Maternal**: LOAEL: 100 mg/kg body weight |
- **Result**: No fetotoxicity, No teratogenic effects |

- **Test Type**: Development |
- **Species**: Rabbit |
- **Application Route**: Oral |
- **Developmental Toxicity**: NOAEL: 32 mg/kg body weight |
- **Result**: Fetotoxicity, Skeletal malformations |

### Reproductive toxicity - Assessment
- **levamisole hydrochloride**: Suspected of damaging the unborn child. |

### Effects on fertility
- **Test Type**: Three-generation reproduction toxicity study |
- **Species**: Rat |
- **Application Route**: Oral |
- **Result**: No significant adverse effects were reported |

### Effects on foetal development
- **Test Type**: Embryo-foetal development |
- **Species**: Rat |
- **Application Route**: Oral |
- **Developmental Toxicity**: NOAEL: 20 mg/kg body weight |
- **Result**: Fetotoxicity |

- **Test Type**: Embryo-foetal development |
- **Species**: Rabbit |
- **Application Route**: Oral |
- **Developmental Toxicity**: LOAEL: 40 mg/kg body weight |
- **Result**: Fetotoxicity |

### Reproductive toxicity - Assessment
- **Some evidence of adverse effects on development, based on**
Citric acid:
Effects on foetal development:
Test Type: One-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Result: negative

STOT - single exposure
Not classified based on available information.

Components:
oxyclozanide:
Exposure routes: Oral
Target Organs: Central nervous system
Assessment: May cause damage to organs.

STOT - repeated exposure
Not classified based on available information.

Components:
oxyclozanide:
Target Organs: Brain, Liver
Assessment: May cause damage to organs through prolonged or repeated exposure.

levamisole hydrochloride:
Target Organs: Blood, Testis
Assessment: May cause damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Components:
oxyclozanide:
Species: Rat
NOAEL: 9 mg/kg
LOAEL: 44.5 mg/kg
Application Route: Oral
Exposure time: 3 Months
Target Organs: Brain, Liver, spleen, Adrenal gland
Symptoms: Liver effects

Species: Dog
NOAEL: 5 mg/kg
LOAEL: 25 mg/kg
Application Route: Oral
Exposure time: 3 Months
Target Organs: Brain, Liver
Symptoms: blood effects, alteration in liver enzymes
levamisole hydrochloride:
Species : Rat
NOAEL : 2.5 mg/kg
Application Route : Oral
Exposure time : 18 Months
Target Organs : Testis

Species : Dog
LOAEL : 20 mg/kg
Application Route : Oral
Exposure time : 18 Months
Target Organs : Blood

Species : Dog
LOAEL : 40 mg/kg
Application Route : Oral
Exposure time : 3 Months

Citric acid:
Species : Rat
NOAEL : 4,000 mg/kg
LOAEL : 8,000 mg/kg
Application Route : Ingestion
Exposure time : 10 Days

Aspiration toxicity
Not classified based on available information.

Components:
oxyclozanide:
Not applicable

Experience with human exposure

Components:
oxyclozanide:
Ingestion : Symptoms: May cause, Gastrointestinal disturbance, Central nervous system depression

levamisole hydrochloride:
Ingestion : Symptoms: Nausea, Vomiting, Headache, Dizziness, hypotension

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:
Kaolin:
Toxicity to fish (Chronic toxicity) : NOELR (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l Exposure time: 30 d

**oxyclozanide:**
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.69 mg/l Exposure time: 48 h Method: OECD Test Guideline 202

M-Factor (Acute aquatic toxicity) : 1
M-Factor (Chronic aquatic toxicity) : 1

**levamisole hydrochloride:**
Toxicity to fish : LC50 (Oryzias latipes (Japanese medaka)): 37.3 mg/l Exposure time: 96 h Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 64 mg/l Exposure time: 48 h Method: OECD Test Guideline 202

**Citric acid:**
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 (Water flea)): 1,535 mg/l Exposure time: 24 h

**Persistence and degradability**

**Components:**

**oxyclozanide:**
Stability in water : Hydrolysis: 50 % (156 d) Method: OECD Test Guideline 111

**Citric acid:**

**Bioaccumulative potential**

**Components:**

**oxyclozanide:**
15. Mobility in soil

Components:

oxyclozanide:

Distribution among environmental compartments: log Koc: 4.83
Method: OECD Test Guideline 106

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. (oxyclozanide)
Class: 9
Packing group: III
Labels: 9

IATA-DGR
UN/ID No.: UN 3082
Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (oxyclozanide)
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. (oxyclozanide)
Class: 9
SAFETY DATA SHEET

Levamisole / Oxyclozanide Formulation

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.

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

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

Minister of Industry Regulation No. 23/M-IND/PDF/14/2013 concerning the Revision of Minister of Industry Regulation No. 87/M-IND/PDF/9/2009 concerning Globally Harmonized System of Classification and Labelling of Chemicals.

Regulation of the Minister of Health No. 472 of 1996 on the Safeguarding of Substances Hazardous to Health
Hazardous substances that must be registered : Not applicable

Government Regulation No. 74 of 2001 on the Management of Hazardous and Toxic Substances
Hazardous substances approved for use : Not applicable
Prohibited substances : Not applicable
Restricted substances : Not applicable

Regulation of the Minister of Trade No. 44 of 2009 on Procurement, Distribution and Supervision of Hazardous Materials
Type of Hazardous Materials Restricted to Import, Distribution and Supervision : Not applicable

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

Levamisole / Oxyclozanide Formulation


Date format: yyyy/mm/dd

Full text of other abbreviations

ACGIH: USA. ACGIH Threshold Limit Values (TLV)
ID OEL: Indonesia. Occupational Exposure Limits
ACGIH / TWA: 8-hour, time-weighted average
ID OEL / NAB: Long term exposure limit

AIIC - 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; IECx - Concentration associated with x% response; LD50 - Lethal Dose to 50% of a test population; LC50 - Lethal Concentration to 50% of a test population; LSD50 - 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)EL - No Observed (Adverse) Effect Concentration; NO(A)EC - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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.

ID / EN