SAFETY DATA SHEET

Deltamethrin (5%) Formulation

Version 4.0  Revision Date: 18.08.2021  SDS Number: 2333310-00012  Date of last issue: 09.04.2021
Date of first issue: 12.12.2017

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Deltamethrin (5%) Formulation

Manufacturer or supplier’s details
Company: MSD
Address: 50 Tuas West Drive
          Singapore - Singapore  638408
Telephone: +1-908-740-4000
Emergency telephone number: 65 6697 2111 (24/7/365)
E-mail address: EHSDATASTEWARD@msd.com

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

2. HAZARDS IDENTIFICATION

GHS Classification
Flammable liquids: Category 3
Acute toxicity (Oral): Category 4
Skin corrosion/irritation: Category 2
Serious eye damage/eye irritation: Category 1
Skin sensitisation: Category 1
Reproductive toxicity: Category 2

Specific target organ toxicity - single exposure: Category 3
Specific target organ toxicity - repeated exposure (Oral): Category 2 (Central nervous system, Immune system)
Specific target organ toxicity - repeated exposure (Inhalation): Category 2 (Central nervous system)
Aspiration hazard: Category 1
Short-term (acute) aquatic hazard: Category 1
Long-term (chronic) aquatic hazard: Category 1
hazard

**GHS label elements**

**Hazard pictograms**

- Flame
- Human skull
- Fungus

**Signal word**

- Danger

**Hazard statements**

- H226 Flammable liquid and vapour.
- H302 Harmful if swallowed.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H335 May cause respiratory irritation.
- H336 May cause drowsiness or dizziness.
- H361f Suspected of damaging fertility. Suspected of damaging the unborn child.
- H373 May cause damage to organs (Central nervous system, Immune system) through prolonged or repeated exposure if swallowed.
- H373 May cause damage to organs (Central nervous system) through prolonged or repeated exposure if inhaled.
- 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.
- P233 Keep container tightly closed.
- P241 Use explosion-proof electrical/ ventilating/ lighting equipment.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P260 Do not breathe mist or vapours.
- P264 Wash skin thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated area.
- 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:**

- P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
- P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
- P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/
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General advice: In the case of accident or if you feel unwell, seek medical advice immediately. When symptoms persist or in all cases of doubt seek medical advice.

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

In case of skin contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

In case of eye contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.

Other hazards which do not result in classification
Vapours may form explosive mixture with air.
Repeated exposure may cause skin dryness or cracking.

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>Hydrocarbons, C9, aromatics</td>
<td>Not Assigned</td>
<td>&gt;= 30 - &lt; 50</td>
</tr>
<tr>
<td>2-Methoxy-1-methylethyl acetate</td>
<td>108-65-6</td>
<td>&gt;= 20 - &lt; 30</td>
</tr>
<tr>
<td>Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts</td>
<td>Not Assigned</td>
<td>&gt;= 3 - &lt; 10</td>
</tr>
<tr>
<td>2-Methyl-1-propanol</td>
<td>78-83-1</td>
<td>&gt;= 3 - &lt; 10</td>
</tr>
<tr>
<td>Deltamethrin (ISO)</td>
<td>52918-63-5</td>
<td>&gt;= 3 - &lt; 10</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

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

In case of skin contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

In case of eye contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.


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

Other hazards which do not result in classification
Vapours may form explosive mixture with air.
Repeated exposure may cause skin dryness or cracking.
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 :  
Harmful if swallowed.  
May be fatal if swallowed and enters airways.  
Causes skin irritation.  
May cause an allergic skin reaction.  
Causes serious eye damage.  
May cause respiratory irritation.  
May cause drowsiness or dizziness.  
Suspected of damaging fertility. Suspected of damaging the unborn child.  
May cause damage to organs through prolonged or repeated exposure if swallowed.  
May cause damage to organs through prolonged or repeated exposure if inhaled.  
Prolonged or repeated contact may dry skin and cause irritation.  

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 :  
High volume water jet  

Specific hazards during firefighting :  
Do not use a solid water stream as it may scatter and spread fire.  
Flash back possible over considerable distance.  
Vapours may form explosive mixtures with air.  
Exposure to combustion products may be a hazard to health.  

Hazardous combustion products :  
Carbon oxides  
Nitrogen oxides (NOx)  
Bromine compounds  
Sulphur oxides  
Metal 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:
Remove all sources of ignition.
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:
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 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:
If sufficient ventilation is unavailable, use with local exhaust ventilation.
Use explosion-proof electrical, ventilating and lighting equipment.

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.
Non-sparking tools should be used.
Keep container tightly closed.
Already sensitised individuals should consult their physician regarding working with respiratory irritants or sensitisers.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Take precautionary measures against static discharges.
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. Keep tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Keep away from heat and sources of ignition.

**Materials to avoid**: Do not store with the following product types:
- Self-reactive substances and mixtures
- Organic peroxides
- Oxidizing agents
- Flammable gases
- Pyrophoric liquids
- Pyrophoric solids
- Self-heating substances and mixtures
- Poisonous gases
- Explosives

### 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>2-Methyl-1-propanol</td>
<td>78-83-1</td>
<td>PEL (long term)</td>
<td>50 ppm</td>
<td>SG OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>152 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>50 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Deltamethrin (ISO)</td>
<td>52918-63-5</td>
<td>TWA</td>
<td>15 µg/m³ (OEB 3)</td>
<td>Internal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Further information: DSEN, Skin</td>
<td>Wipe limit</td>
<td>Internal</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>150 µg/100 cm²</td>
<td></td>
</tr>
</tbody>
</table>

**Engineering measures**: Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., drip-less 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.

Use explosion-proof electrical, ventilating and lighting equipment.

**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

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

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.
Contaminated work clothing should not be allowed out of the workplace.
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: yellow
Odour: No data available
Odour Threshold: No data available
pH: 3 - 5
Melting point/freezing point: No data available
Initial boiling point and boiling range: No data available
Flash point: 45 - 51 °C
Evaporation rate: No data available
Flammability (solid, gas): Not applicable
### 8. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability (liquids)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Upper explosion limit / Upper flammability limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower explosion limit / Lower flammability limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Density</td>
<td>0.963 - 0.967 g/cm³</td>
</tr>
<tr>
<td>Water solubility</td>
<td>completely miscible</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not explosive</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>The substance or mixture is not classified as oxidizing.</td>
</tr>
<tr>
<td>Molecular weight</td>
<td>No data available</td>
</tr>
<tr>
<td>Particle size</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

### 10. STABILITY AND REACTIVITY

- **Reactivity**: Not classified as a reactivity hazard.
- **Chemical stability**: Stable under normal conditions.
- **Possibility of hazardous reactions**: Flammable liquid and vapour.
  Vapours may form explosive mixture with air.
  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

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

Harmful if swallowed.

**Product:**

- **Acute oral toxicity**
  - Acute toxicity estimate: 1,334 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:**

**Hydrocarbons, C9, aromatics:**

- **Acute oral toxicity**
  - LD50 (Rat, female): 3,492 mg/kg

- **Acute inhalation toxicity**
  - LC50 (Rat): > 6.193 mg/l
  - Exposure time: 4 h
  - Test atmosphere: vapour
  - Assessment: The substance or mixture has no acute inhalation toxicity

- **Acute dermal toxicity**
  - LD50 (Rabbit): > 3,160 mg/kg
  - Assessment: The substance or mixture has no acute dermal toxicity

**2-Methoxy-1-methylethyl acetate:**

- **Acute oral toxicity**
  - LD50 (Rat): > 5,000 mg/kg

- **Acute inhalation toxicity**
  - LC0 (Rat): 9.48 mg/l
  - Exposure time: 4 h
  - Test atmosphere: vapour

- **Acute dermal toxicity**
  - LD50 (Rat): > 5,000 mg/kg

**Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:**

- **Acute oral toxicity**
  - LD50 (Rat): 4,445 mg/kg

- **Acute dermal toxicity**
  - LD50 (Rat): > 2,000 mg/kg
  - Method: OECD Test Guideline 402
  - Remarks: Based on data from similar materials

**2-Methyl-1-propanol:**

- **Acute oral toxicity**
  - LD50 (Rat): 3,350 mg/kg
  - Method: OECD Test Guideline 401

- **Acute inhalation toxicity**
  - LC50 (Rat): > 24.6 mg/l
  - Exposure time: 4 h
  - Test atmosphere: vapour
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Acute dermal toxicity:
- LD50 (Rabbit): 2,460 mg/kg
- Method: OECD Test Guideline 402

Acute oral toxicity:
- LD50 (Rat): 66.7 mg/kg
- LD50 (Rat): 9 - 139 mg/kg
- LD50 (Mouse): 19 - 34 mg/kg

Acute inhalation toxicity:
- LC50 (Rat): 0.8 mg/l
- Exposure time: 2 h
- Test atmosphere: dust/mist

Acute dermal toxicity:
- LD50 (Rabbit): 2,000 mg/kg
- LD50 (Rat): > 800 mg/kg

Acute toxicity (other routes of administration):
- LD50 (Rat): 2.5 mg/kg
- Application Route: Intravenous
- LD50 (Mouse): 10 mg/kg
- Application Route: Intraperitoneal

Skin corrosion/irritation:
- Causes skin irritation.

Components:

Hydrocarbons, C9, aromatics:
- Assessment: Repeated exposure may cause skin dryness or cracking.

2-Methoxy-1-methylethyl acetate:
- Species: Rabbit
- Result: No skin irritation

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:
- Species: Rabbit
- Method: OECD Test Guideline 404
- Result: Skin irritation

2-Methyl-1-propanol:
- Species: Rabbit
- Method: OECD Test Guideline 404
- Result: Skin irritation

Deltamethrin (ISO):
- Species: Rabbit
- Result: No skin irritation
Serious eye damage/eye irritation

Causes serious eye damage.

Components:

Hydrocarbons, C9, aromatics:

Species: Rabbit
Result: No eye irritation

2-Methoxy-1-methylethyl acetate:

Species: Rabbit
Result: No eye irritation

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:

Species: Rabbit
Result: Irreversible effects on the eye
Method: OECD Test Guideline 405

2-Methyl-1-propanol:

Species: Rabbit
Result: Irreversible effects on the eye
Method: OECD Test Guideline 405

deltamethrin (ISO):

Species: Rabbit
Result: Moderate eye irritation

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified based on available information.

Components:

Hydrocarbons, C9, aromatics:

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

2-Methoxy-1-methylethyl acetate:

Test Type: Maximisation Test
Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative
### Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Magnusson-Kligman-Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure routes</td>
<td>Skin contact</td>
</tr>
<tr>
<td>Species</td>
<td>Guinea pig</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 406</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

### 2-Methyl-1-propanol:

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Maximisation Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure routes</td>
<td>Skin contact</td>
</tr>
<tr>
<td>Species</td>
<td>Guinea pig</td>
</tr>
<tr>
<td>Result</td>
<td>negative</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

### Deltamethrin (ISO):

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Maximisation Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure routes</td>
<td>Dermal</td>
</tr>
<tr>
<td>Species</td>
<td>Guinea pig</td>
</tr>
<tr>
<td>Result</td>
<td>negative</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td></td>
</tr>
<tr>
<td>Not classified based on available information.</td>
<td></td>
</tr>
</tbody>
</table>

### Components:

#### Hydrocarbons, C9, aromatics:

<table>
<thead>
<tr>
<th>Genotoxicity in vitro</th>
<th>Test Type: Chromosome aberration test in vitro</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result</td>
<td>negative</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Genotoxicity in vivo</th>
<th>Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species</td>
<td>Rat</td>
</tr>
<tr>
<td>Application Route</td>
<td>inhalation (vapour)</td>
</tr>
<tr>
<td>Result</td>
<td>negative</td>
</tr>
</tbody>
</table>

#### 2-Methoxy-1-methylethyl acetate:

<table>
<thead>
<tr>
<th>Genotoxicity in vitro</th>
<th>Test Type: Bacterial reverse mutation assay (AMES)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result</td>
<td>negative</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test Type</th>
<th>DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result</td>
<td>negative</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test Type</th>
<th>In vitro mammalian cell gene mutation test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result</td>
<td>negative</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>
### Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:

**Genotoxicity in vitro**
- Test Type: Bacterial reverse mutation assay (AMES)  
  Result: negative  
  Remarks: Based on data from similar materials

### 2-Methyl-1-propanol:

**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 mammalian cell gene mutation test  
  Result: negative

**Genotoxicity in vivo**
- Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
  Species: Mouse  
  Application Route: Ingestion  
  Method: OECD Test Guideline 474  
  Result: negative

### Deltamethrin (ISO):

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

- Test Type: DNA Repair  
  Test system: Escherichia coli  
  Result: negative

- Test Type: Chromosomal aberration  
  Test system: Chinese hamster ovary cells  
  Result: negative

- Test Type: In vitro mammalian cell gene mutation test  
  Test system: Chinese hamster lung cells  
  Concentration: LOAEL: 20 mg/kg  
  Result: positive

**Genotoxicity in vivo**
- Test Type: Micronucleus test  
  Species: Mouse  
  Application Route: Oral  
  Result: negative

- Test Type: dominant lethal test  
  Species: Mouse  
  Application Route: Oral  
  Result: negative

- Test Type: sister chromatid exchange assay  
  Species: Mouse  
  Cell type: Bone marrow
Carcinogenicity

Not classified based on available information.

Components:

2-Methoxy-1-methylethyl acetate:
- Species: Rat
- Application Route: inhalation (vapour)
- Exposure time: 2 Years
- Result: negative
- Remarks: Based on data from similar materials

Deltamethrin (ISO):
- Species: Mouse, male and female
- Application Route: oral (feed)
- Exposure time: 104 weeks
- NOAEL: 8 mg/kg body weight
- LOAEL: 4 mg/kg body weight
- Result: positive
- Target Organs: Lymph nodes
- Species: Rat, male and female
  - Application Route: oral (feed)
  - Exposure time: 2 Years
  - Result: negative
- Species: Dog, male and female
  - Application Route: oral (feed)
  - Exposure time: 2 Years
  - NOAEL: 1 mg/kg body weight
  - Result: negative

Reproductive toxicity

Suspected of damaging fertility. Suspected of damaging the unborn child.

Components:

Hydrocarbons, C9, aromatics:
- Effects on fertility: Test Type: Three-generation reproduction toxicity study
  - Species: Rat
  - Application Route: inhalation (vapour)
  - Result: negative
- Effects on foetal development: Test Type: Embryo-foetal development
  - Species: Mouse
  - Application Route: inhalation (vapour)
  - Result: negative

2-Methoxy-1-methylethyl acetate:
- Effects on fertility: Test Type: Two-generation reproduction toxicity study
**Effects on foetal development**

Species: Rat  
Application Route: inhalation (vapour)  
Method: OECD Test Guideline 416  
Result: negative  
Remarks: Based on data from similar materials

**2-Methyl-1-propanol:**

**Effects on fertility**

Species: Rat  
Application Route: inhalation (vapour)  
Method: OPPTS 870.3800  
Result: negative

**Effects on foetal development**

Species: Rat  
Application Route: inhalation (vapour)  
Method: OECD Test Guideline 414  
Result: negative

**deltamethrin (ISO):**

**Effects on fertility**

Species: Rat  
Application Route: oral (feed)  
Early Embryonic Development: NOAEL: 50 mg/kg body weight  
Symptoms: No effects on fertility, Embryo-foetal toxicity  
Remarks: Significant toxicity observed in testing

Test Type: Two-generation reproduction toxicity study  
Species: Rat  
Application Route: Oral  
Early Embryonic Development: LOAEL: 84 - 149 mg/kg body weight  
Symptoms: No effects on fertility, Embryo-foetal toxicity

Test Type: Fertility  
Species: Rat, male  
Application Route: Oral  
Fertility: LOAEL: 1 mg/kg body weight  
Symptoms: Effects on fertility  
Target Organs: Testes

**Effects on foetal development**

Species: Mouse  
Application Route: oral (gavage)  
Developmental Toxicity: LOAEL: 1 mg/kg body weight  
Result: Skeletal malformations  
Remarks: Maternal toxicity observed.
SAFETY DATA SHEET

Deltamethrin (5%) Formulation

Test Type: Development
Species: Rat, female
Developmental Toxicity: NOAEL: 10 mg/kg body weight
Symptoms: No effects on foetal development

Test Type: Development
Species: Rabbit, female
Application Route: oral (gavage)
Developmental Toxicity: NOAEL: 16 mg/kg body weight
Symptoms: No effects on foetal development

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

STOT - single exposure
May cause respiratory irritation.
May cause drowsiness or dizziness.

Components:

Hydrocarbons, C9, aromatics:
Assessment: May cause drowsiness or dizziness.
Assessment: May cause respiratory irritation.

2-Methoxy-1-methylethyl acetate:
Assessment: May cause drowsiness or dizziness.

2-Methyl-1-propanol:
Assessment: May cause respiratory irritation.
May cause drowsiness or dizziness.

deltamethrin (ISO):
Assessment: May cause respiratory irritation.

STOT - repeated exposure
May cause damage to organs (Central nervous system, Immune system) through prolonged or repeated exposure if swallowed.
May cause damage to organs (Central nervous system) through prolonged or repeated exposure if inhaled.

Components:
deltamethrin (ISO):
Exposure routes: Ingestion
Target Organs: Central nervous system, Immune system
Assessment: Causes damage to organs through prolonged or repeated exposure.

Exposure routes: Inhalation (dust/mist/fume)
Target Organs: Central nervous system
Assessment: Causes damage to organs through prolonged or repeated exposure.
### Repeated dose toxicity

**Components:**

**Hydrocarbons, C9, aromatics:**

<table>
<thead>
<tr>
<th>Species</th>
<th>Rat, female</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>900 mg/m³</td>
</tr>
<tr>
<td>Application Route</td>
<td>Inhalation (vapour)</td>
</tr>
<tr>
<td>Exposure time</td>
<td>12 Months</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

**2-Methoxy-1-methylethyl acetate:**

<table>
<thead>
<tr>
<th>Species</th>
<th>Rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>&gt; 1,000 mg/kg</td>
</tr>
<tr>
<td>Application Route</td>
<td>Ingestion</td>
</tr>
<tr>
<td>Exposure time</td>
<td>41 - 45 Days</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 422</td>
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</table>

<table>
<thead>
<tr>
<th>Species</th>
<th>Mouse</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>1.62 mg/l</td>
</tr>
<tr>
<td>Application Route</td>
<td>Inhalation (vapour)</td>
</tr>
<tr>
<td>Exposure time</td>
<td>2 yr</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>&gt; 1,838 mg/kg</td>
</tr>
<tr>
<td>Application Route</td>
<td>Skin contact</td>
</tr>
<tr>
<td>Exposure time</td>
<td>90 Days</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

**2-Methyl-1-propanol:**

<table>
<thead>
<tr>
<th>Species</th>
<th>Rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>&gt; 1,450 mg/kg</td>
</tr>
<tr>
<td>Application Route</td>
<td>Ingestion</td>
</tr>
<tr>
<td>Exposure time</td>
<td>90 Days</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 408</td>
</tr>
</tbody>
</table>

**deltamethrin (ISO):**

<table>
<thead>
<tr>
<th>Species</th>
<th>Rat, male and female</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>1 mg/kg</td>
</tr>
<tr>
<td>LOAEL</td>
<td>2.5 mg/kg</td>
</tr>
<tr>
<td>Application Route</td>
<td>Oral</td>
</tr>
<tr>
<td>Exposure time</td>
<td>13 Weeks</td>
</tr>
<tr>
<td>Target Organs</td>
<td>Nervous system</td>
</tr>
<tr>
<td>Symptoms</td>
<td>hyperexcitability</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Species</th>
<th>Rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOAEL</td>
<td>3 mg/m³</td>
</tr>
<tr>
<td>Application Route</td>
<td>Inhalation (dust/mist/fume)</td>
</tr>
<tr>
<td>Exposure time</td>
<td>2 wk / 5 d/wk / 6 h/d</td>
</tr>
</tbody>
</table>
### Symptoms

- **Species**: Dog  
  - NOAEL: 0.1 mg/kg  
  - LOAEL: 1 mg/kg  
  - Application Route: Oral  
  - Exposure time: 13 Weeks  
  - Target Organs: Nervous system  
  - Symptoms: Dilatation of the pupil, Vomiting, Tremors, Diarrhoea, Salivation

- **Species**: Rat  
  - NOAEL: 14 mg/kg  
  - LOAEL: 54 mg/kg  
  - Application Route: Oral  
  - Exposure time: 91 d  
  - Target Organs: Nervous system

- **Species**: Mouse  
  - NOAEL: 6 mg/kg  
  - Application Route: Oral  
  - Exposure time: 12 Weeks  
  - Target Organs: Immune system  
  - Symptoms: immune system effects

#### Aspiration toxicity

May be fatal if swallowed and enters airways.

**Product:**
The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

**Components:**

**Hydrocarbons, C9, aromatics:**
The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

**2-Methyl-1-propanol:**
The substance or mixture causes concern owing to the assumption that it causes a human aspiration toxicity hazard.

### Experience with human exposure

**Components:**

**Deltamethrin (ISO):**
- **Inhalation**
  - Symptoms: respiratory tract irritation, Dizziness, Sweating, Headache, Nausea, Vomiting, anorexia, Fatigue, tingling, Palpitation, Blurred vision, muscle twitching

- **Skin contact**
  - Symptoms: Skin irritation, Erythema, pruritis, Headache, Nausea, Vomiting, Dizziness, tingling, Sweating, muscle twitching, Blurred vision, Fatigue, anorexia, Allergic reactions
12. ECOLOGICAL INFORMATION

**Ecotoxicity**

**Components:**

**Hydrocarbons, C9, aromatics:**

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): 9.2 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 3.2 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EL50 (Pseudokirchneriella subcapitata (green algae)): 7.9 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201

NOELR (Pseudokirchneriella subcapitata (green algae)): 0.22 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50: > 99 mg/l
Exposure time: 10 min

**2-Methoxy-1-methylethyl acetate:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 - 180 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 500 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 1,000 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (algae)): > 1,000 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates (Chron- : NOEC (Daphnia magna (Water flea)): >= 100 mg/l
Exposure time: 21 d
### Toxicity to microorganisms

Method: OECD Test Guideline 211

- **EC10**: > 1,000 mg/l
- **Exposure time**: 0.5 h

### Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:

#### Toxicity to fish

- **LC50**: > 1 - < 10 mg/l
- **Exposure time**: 96 h
- **Method**: OECD Test Guideline 203

#### Toxicity to daphnia and other aquatic invertebrates

- **EC50** (Daphnia magna (Water flea)): > 1 - 10 mg/l
- **Exposure time**: 48 h
- **Method**: OECD Test Guideline 202
- **Remarks**: Based on data from similar materials

#### Toxicity to algae/aquatic plants

- **ErC50** (Pseudokirchneriella subcapitata (green algae)): > 10 - 100 mg/l
- **Exposure time**: 96 h
- **Remarks**: Based on data from similar materials
- **NOEC** (Pseudokirchneriella subcapitata (green algae)): > 0.1 - 1 mg/l
- **Exposure time**: 96 h
- **Remarks**: Based on data from similar materials

#### Toxicity to fish (Chronic toxicity)

- **NOEC** (Oncorhynchus mykiss (rainbow trout)): > 0.1 - 1 mg/l
- **Exposure time**: 72 d
- **Remarks**: Based on data from similar materials

#### Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

- **NOEC** (Daphnia magna (Water flea)): > 1 mg/l
- **Exposure time**: 21 d
- **Remarks**: Based on data from similar materials

### 2-Methyl-1-propanol:

#### Toxicity to fish

- **LC50** (Pimephales promelas (fathead minnow)): 1,430 mg/l
- **Exposure time**: 96 h

#### Toxicity to daphnia and other aquatic invertebrates

- **EC50** (Daphnia pulex (Water flea)): 1,100 mg/l
- **Exposure time**: 48 h

#### Toxicity to algae/aquatic plants

- **ErC50** (Pseudokirchneriella subcapitata (green algae)): 1,799 mg/l
- **Exposure time**: 72 h
- **Method**: OECD Test Guideline 201
- **NOEC** (Pseudokirchneriella subcapitata (green algae)): 117 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)): 20 mg/l
- **Exposure time**: 21 d
deltamethrin (ISO):

Toxicity to fish: LC50 (Cyprinodon variegatus (sheepshead minnow)): 0.00048 mg/l  
Exposure time: 96 h

LC50 (Oncorhynchus mykiss (rainbow trout)): 0.00039 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 (Mysidopsis bahia (opossum shrimp)): 0.0037 µg/l  
Exposure time: 48 h

EC50 (Daphnia magna (Water flea)): 0.0035 mg/l  
Exposure time: 48 h

LC50 (Gammarus fasciatus (freshwater shrimp)): 0.0003 µg/l  
Exposure time: 96 h

Toxicity to algae/aquatic plants: EC50 (Pseudokirchneriella subcapitata (green algae)): > 9.1 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: No toxicity at the limit of solubility

M-Factor (Acute aquatic toxicity): 1,000,000

Toxicity to fish (Chronic toxicity):
NOEC (Pimephales promelas (fathead minnow)): 0.000022 mg/l  
Exposure time: 36 d

NOEC (Pimephales promelas (fathead minnow)): 0.000017 mg/l  
Exposure time: 260 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):
NOEC (Daphnia magna (Water flea)): 0.0041 µg/l  
Exposure time: 21 d

M-Factor (Chronic aquatic toxicity): 1,000,000

Persistence and degradability

Components:

Hydrocarbons, C9, aromatics:
Biodegradability: Result: Readily biodegradable.  
Biodegradation: 78 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301F

2-Methoxy-1-methylethyl acetate:
Biodegradability: Result: Readily biodegradable.  
Biodegradation: 90 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301F
Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:
Biodegradability: Result: Readily biodegradable.
Biodegradation: 100 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

2-Methyl-1-propanol:
Biodegradability: Result: Readily biodegradable.
Biodegradation: 70 - 80 %
Exposure time: 28 d
Method: OECD Test Guideline 301D

deltamethrin (ISO):
Stability in water: Hydrolysis: 0 % (30 d)

Bioaccumulative potential

Components:

Hydrocarbons, C9, aromatics:
Partition coefficient: n-octanol/water: log Pow: 3.7 - 4.5

2-Methoxy-1-methylethyl acetate:
Partition coefficient: n-octanol/water: log Pow: 1.2

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:
Partition coefficient: n-octanol/water: log Pow: 2.89

2-Methyl-1-propanol:
Partition coefficient: n-octanol/water: log Pow: 1

deltamethrin (ISO):
Bioaccumulation: Species: Lepomis macrochirus (Bluegill sunfish)
Bioconcentration factor (BCF): 1,800
Partition coefficient: n-octanol/water: log Pow: 4.6

Mobility in soil

Components:

deltamethrin (ISO):
Distribution among environmental compartments: log Koc: 7.2

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. |

14. TRANSPORT INFORMATION

UNRTDG
UN number: UN 1993
Proper shipping name: FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics, 2-Methoxy-1-methylethyl acetate)

<table>
<thead>
<tr>
<th>Class</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packing group</td>
<td>III</td>
</tr>
<tr>
<td>Labels</td>
<td>3</td>
</tr>
</tbody>
</table>

IATA-DGR
UN/ID No.: UN 1993
Proper shipping name: Flammable liquid, n.o.s. (Hydrocarbons, C9, aromatics, 2-Methoxy-1-methylethyl acetate)

<table>
<thead>
<tr>
<th>Class</th>
<th>3</th>
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<tbody>
<tr>
<td>Packing group</td>
<td>III</td>
</tr>
<tr>
<td>Labels</td>
<td>Flammable Liquids</td>
</tr>
<tr>
<td>Packing instruction (cargo aircraft)</td>
<td>366</td>
</tr>
<tr>
<td>Packing instruction (passenger aircraft)</td>
<td>355</td>
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</tbody>
</table>

IMDG-Code
UN number: UN 1993
Proper shipping name: FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics, 2-Methoxy-1-methylethyl acetate, deltamethrin (ISO))

<table>
<thead>
<tr>
<th>Class</th>
<th>3</th>
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<tbody>
<tr>
<td>Packing group</td>
<td>III</td>
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<tr>
<td>Labels</td>
<td>3</td>
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<tr>
<td>EmS Code</td>
<td>F-E, S-E</td>
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<tr>
<td>Marine pollutant</td>
<td>yes</td>
</tr>
</tbody>
</table>

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.
SAFETY DATA SHEET

Deltamethrin (5%) Formulation

15. REGULATORY INFORMATION

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

Workplace Safety and Health Act and Workplace Safety and Health (General Provisions) Regulations: This product is subjected to the SDS, labelling, PEL and other requirements in the Act/Regulations.

Environmental Protection and Management Act and Environmental Protection and Management (Hazardous Substances) Regulations: Not applicable

Fire Safety (Petroleum and Flammable Materials) Regulations: Butanol, Methoxy acetoxyp propane, Petroleum distillates

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: dd.mm.yyyy

Full text of other abbreviations

- ACGIH: USA. ACGIH Threshold Limit Values (TLV)
- ACGIH / TWA: 8-hour, time-weighted average
- SG OEL / PEL (long term): Permissible Exposure Level (PEL) Long Term

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;
SAFETY DATA SHEET

Deltamethrin (5%) Formulation

Version 4.0  Revision Date: 18.08.2021  SDS Number: 2333310-00012  Date of last issue: 09.04.2021

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; 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.

SG / EN