SAFETY DATA SHEET

Permethrin (65%) Formulation

Version: 1.1  Revision Date: 2021/08/27  SDS Number: 7766193-00002  Date of last issue: 2021/02/05  Date of first issue: 2021/02/05

1. PRODUCT AND COMPANY IDENTIFICATION

Chemical product name  :  Permethrin (65%) 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

Flammable liquids  :  Category 3
Acute toxicity (Oral)  :  Category 4
Acute toxicity (Inhalation)  :  Category 4
Skin sensitisation  :  Category 1
Specific target organ toxicity - single exposure  :  Category 3
Short-term (acute) aquatic hazard  :  Category 1
Long-term (chronic) aquatic hazard  :  Category 1

GHS label elements
Hazard pictograms  :

Signal word  :  Warning
Hazard statements  :
H226 Flammable liquid and vapour.
H302 + H332 Harmful if swallowed or if inhaled.
H317 May cause an allergic skin reaction.
H336 May cause drowsiness or dizziness.
Precautionary statements:

**Prevention:**
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P241 Use explosion-proof electrical/ventilating/lighting equipment.
P242 Use non-sparking tools.
P243 Take action to prevent static discharges.
P261 Avoid breathing 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 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.

**Storage:**
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

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

Other hazards which do not result in classification

Important symptoms and outlines of the emergency assumed
Vapours may form explosive mixture with air.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substance / Mixture</th>
<th>Mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Components</strong></td>
<td></td>
</tr>
<tr>
<td>Chemical name</td>
<td>CAS-No.</td>
</tr>
</tbody>
</table>

H410 Very toxic to aquatic life with long lasting effects.
4. FIRST AID MEASURES

General advice: In the case of accident or if you feel unwell, seek medical advice immediately. When symptoms persist or in all cases of doubt seek medical advice.

If inhaled: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

In case of skin contact: In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

In case of eye contact: 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: Harmful if swallowed or if inhaled. May cause an allergic skin reaction. May cause drowsiness or dizziness.

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: Chlorine compounds
Carbon oxides
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

**Handling**

**Technical measures**: See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

**Local/Total ventilation**: If sufficient ventilation is unavailable, use with local exhaust ventilation. Use explosion-proof electrical, ventilating and lighting equipment.

**Advice on safe handling**: Do not get on skin or clothing. Avoid breathing mist or vapours. Do not swallow. Avoid contact with 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.
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.

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.
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.

Storage
Conditions for safe storage:
Keep in properly labelled containers.
Store locked up.
Keep tightly closed.
Keep in a cool, well-ventilated place.
Store in accordance with the particular national regulations.
Keep away from heat and sources of ignition.

Materials to avoid:
Do not store with the following product types:
Oxidizing solids
Oxidizing liquids

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>Permethrin (ISO)</td>
<td>52645-53-1</td>
<td>TWA</td>
<td>80 µg/m³ (OEB 3)</td>
<td>Internal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wipe limit</td>
<td>800 µg/100 cm²</td>
<td>Internal</td>
</tr>
<tr>
<td>1-Methoxy-2-propanol</td>
<td>107-98-2</td>
<td>TWA</td>
<td>50 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>100 ppm</td>
<td>ACGIH</td>
</tr>
</tbody>
</table>

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

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9. **PHYSICAL AND CHEMICAL PROPERTIES**

- **Physical state**: liquid
- **Colour**: dark amber
- **Odour**: strong
- **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)**: Not applicable
10. STABILITY AND REACTIVITY

Reactivity
Chemical stability
Possibility of hazardous reactions

: Not classified as a reactivity hazard.
: Stable under normal conditions.
: 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
- Eye contact

Acute toxicity
Harmful if swallowed or if inhaled.

Product:

Acute oral toxicity: Acute toxicity estimate: 769.23 mg/kg
Method: Calculation method

Acute inhalation toxicity: Acute toxicity estimate: 3.54 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Components:

Permethrin (ISO):
Acute oral toxicity: LD50 (Rat): 480 - 554 mg/kg

Acute inhalation toxicity: LC50 (Rat): 2.3 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

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

1-Methoxy-2-propanol:
Acute oral toxicity: LD50 (Rat): 4,016 mg/kg

Acute inhalation toxicity: LC50 (Mouse): < 22.2 mg/l
Exposure time: 6 h
Test atmosphere: vapour

Acute dermal toxicity: LD50 (Rat): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

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

Acute inhalation toxicity: LC50 (Rat): > 6 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Skin corrosion/irritation
Not classified based on available information.

Components:
Permethrin (ISO):
Species : Rabbit
Result : No skin irritation

1-Methoxy-2-propanol:
Species : Rabbit
Result : No skin irritation

2-Methoxypropanol:
Species : Rabbit
Result : No skin irritation
Remarks : Based on data from similar materials

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

Components:
Permethrin (ISO):
Species : Rabbit
Result : No eye irritation

1-Methoxy-2-propanol:
Species : Rabbit
Result : No eye irritation

2-Methoxypropanol:
Result : No eye irritation
Remarks : Based on data from similar materials

Respiratory or skin sensitisation
Skin sensitisation
May cause an allergic skin reaction.

Respiratory sensitisation
Not classified based on available information.

Components:
Permethrin (ISO):
Test Type : Buehler Test
Exposure routes : Skin contact
Species : Guinea pig
Result : positive
ASSessment: Probability or evidence of skin sensitisation in humans

1-Methoxy-2-propanol:
- **Test Type**: Maximisation Test
- **Exposure routes**: Skin contact
- **Species**: Guinea pig
- **Result**: negative

2-Methoxypropanol:
- **Test Type**: Maximisation Test
- **Exposure routes**: Skin contact
- **Species**: Guinea pig
- **Result**: negative
- **Remarks**: Based on data from similar materials

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

**Components:**

**Permethrin (ISO):**
- **Genotoxicity in vitro**
  - **Test Type**: Bacterial reverse mutation assay (AMES)
  - **Result**: negative
  - **Test Type**: In vitro mammalian cell gene mutation test
  - **Result**: negative
  - **Test Type**: Chromosome aberration test in vitro
  - **Result**: negative
  - **Test Type**: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
  - **Result**: negative
  - **Test Type**: Chromosome aberration test in vitro
  - **Result**: positive
- **Genotoxicity in vivo**
  - **Test Type**: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
  - **Species**: Mouse
  - **Result**: negative
  - **Test Type**: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
  - **Species**: Mouse
  - **Result**: negative
  - **Test Type**: Rodent dominant lethal test (germ cell) (in vivo)
  - **Species**: Mouse
  - **Result**: negative
  - **Test Type**: Mammalian erythrocyte micronucleus test (in vivo
### Germ cell mutagenicity - Assessment

Weight of evidence does not support classification as a germ cell mutagen.

### 1-Methoxy-2-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

- Test Type: In vitro mammalian cell gene mutation test
  - Result: negative

- Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
  - Method: OECD Test Guideline 482
  - Result: negative

#### Genotoxicity in vivo

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

### 2-Methoxypropanol:

#### Genotoxicity in vitro

- Test Type: Bacterial reverse mutation assay (AMES)
  - Result: negative

- Test Type: Chromosome aberration test in vitro
  - Result: negative
  - Remarks: Based on data from similar materials

- Test Type: In vitro mammalian cell gene mutation test
  - Result: negative
  - Remarks: Based on data from similar materials

- Test Type: In vitro mammalian cell gene mutation test
  - Result: negative
  - Remarks: Based on data from similar materials

- Test Type: In vitro sister chromatid exchange assay in mammalian cells
  - Result: equivocal
Remarks: Based on data from similar materials

Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
Method: OECD Test Guideline 482
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo:
Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Result: negative
Remarks: Based on data from similar materials

Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
Species: Mouse
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

Carcinogenicity:
Not classified based on available information.

Components:

Permethrin (ISO):
Species: Rat
Result: negative

Species: Mouse
Result: negative

1-Methoxy-2-propanol:
Species: Rat
Application Route: Inhalation (vapour)
Exposure time: 2 Years
Method: OECD Test Guideline 453
Result: negative

Reproductive toxicity:
Not classified based on available information.

Components:

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

Effects on foetal development: Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Result: negative

1-Methoxy-2-propanol:
Effects on fertility
Species: Rat
Application Route: inhalation (vapour)
Method: OECD Test Guideline 416
Result: negative

Effects on foetal development
Species: Rat
Application Route: inhalation (vapour)
Result: negative

2-Methoxypropanol:
Effects on foetal development
Species: Rabbit
Application Route: Inhalation
Result: positive

Reproductive toxicity - Assessment
Clear evidence of adverse effects on development, based on animal experiments.

STOT - single exposure
May cause drowsiness or dizziness.

Components:

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

2-Methoxypropanol:
Assessment: May cause respiratory irritation.
Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

STOT - repeated exposure
Not classified based on available information.

Repeated dose toxicity

Components:

Permethrin (ISO):
Species: Rat
NOAEL: 0.2201 mg/l
Application Route: Inhalation
Exposure time: 90 Days
Species: Rat
SAFETY DATA SHEET

Permethrin (65%) Formulation

Version 1.1
Revision Date: 2021/08/27
SDS Number: 7766193-00002
Date of last issue: 2021/02/05
Date of first issue: 2021/02/05

NOAEL: 175 mg/kg
Application Route: Ingestion
Exposure time: 90 Days

1-Methoxy-2-propanol:
Species: Rat
NOAEL: 919 mg/kg
Application Route: Ingestion
Exposure time: 35 Days

Species: Rat
NOAEL: 1.1 mg/l
Application Route: Inhalation (vapour)
Exposure time: 2 yr
Method: OECD Test Guideline 453

Species: Rabbit
NOAEL: 1,838 mg/kg
Application Route: Skin contact
Exposure time: 90 Days

2-Methoxypropanol:
Species: Rat
NOAEL: 10.5 mg/l
Application Route: Inhalation (vapour)
Exposure time: 28 Days

Species: Rat
NOAEL: > 300 mg/l
Application Route: Ingestion
Number of exposures: 25 Days
Remarks: Based on data from similar materials

Species: Rabbit
NOAEL: > 200 mg/l
Application Route: Skin contact
Number of exposures: 90 Days
Remarks: Based on data from similar materials

Aspiration toxicity
Not classified based on available information.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Permethrin (ISO):
Toxicity to fish: LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.00079 mg/l
Exposure time: 96 h

Toxicity to daphnia and other: EC50 (Daphnia magna (Water flea)): 0.0001 mg/l
**SAFETY DATA SHEET**

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**Version** 1.1  
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### Aquatic Invertebrates

**Exposure time:** 48 h

**Toxicity to algae/aquatic plants**

- **ErC50** (Pseudokirchneriella subcapitata (green algae)): > 1.13 mg/l  
- **EC10** (Pseudokirchneriella subcapitata (green algae)): 0.0023 mg/l  
  
**Exposure time:** 72 h

**M-Factor (Acute aquatic toxicity)**

- **NOEC** (Danio rerio (zebra fish)): 0.00041 mg/l  
  
**Exposure time:** 35 d  
**Method:** OECD Test Guideline 210

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

- **NOEC** (Daphnia magna (Water flea)): 0.0047 µg/l  
  
**Exposure time:** 21 d  
**Method:** OECD Test Guideline 211

**M-Factor (Chronic aquatic toxicity)**

- **EC50**: > 1,000 mg/l  
  
**Exposure time:** 3 h

**Remarks:** Based on data from similar materials

### 1-Methoxy-2-propanol

**Toxicity to fish**

- **LC50** (Leuciscus idus (Golden orfe)): 6,812 mg/l  
  
**Exposure time:** 96 h  
**Method:** DIN 38412

**Toxicity to daphnia and other aquatic invertebrates**

- **EC50** (Daphnia magna (Water flea)): 23,300 mg/l  
  
**Exposure time:** 48 h

**Toxicity to algae/aquatic plants**

- **ErC50** (Skeletonema costatum (marine diatom)): 6,745 mg/l  
  
**Exposure time:** 72 h  
**Method:** ISO 10253

**Toxicity to microorganisms**

- **IC50**: > 1,000 mg/l  
  
**Exposure time:** 3 h  
**Method:** OECD Test Guideline 209

**Remarks:** Based on data from similar materials

### 2-Methoxypropanol

**Toxicity to fish**

- **LC50** (Leuciscus idus (Golden orfe)): > 100 mg/l  
  
**Exposure time:** 96 h  
**Remarks:** Based on data from similar materials

**Toxicity to daphnia and other aquatic invertebrates**

- **EC50** (Daphnia magna (Water flea)): > 100 mg/l  
  
**Exposure time:** 48 h  
**Remarks:** Based on data from similar materials

**Toxicity to algae/aquatic plants**

- **ErC50** (Skeletonema costatum (marine diatom)): > 100 mg/l  
  
**Exposure time:** 72 h  
**Method:** ISO 10253  
**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
- Method: OECD Test Guideline 211
- Remarks: Based on data from similar materials

Toxicity to microorganisms:

- EC10: > 1 mg/l
- Exposure time: 3 h
- Method: OECD Test Guideline 209
- Remarks: Based on data from similar materials

Persistence and degradability

Components:

Permethrin (ISO):

- Biodegradability: Result: Not readily biodegradable.
  Method: OECD Test Guideline 301F

1-Methoxy-2-propanol:

- Biodegradability: Result: Readily biodegradable.
  Biodegradation: 96 %
  Exposure time: 28 d
  Method: OECD Test Guideline 301E

2-Methoxypropanol:

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

Bioaccumulative potential

Components:

Permethrin (ISO):

- Bioaccumulation: Species: Lepomis macrochirus (Bluegill sunfish)
  Bioconcentration factor (BCF): 570

  Partition coefficient: n-octanol/water: log Pow: 4.67

1-Methoxy-2-propanol:

  Partition coefficient: n-octanol/water: log Pow: < 1

2-Methoxypropanol:

  Partition coefficient: n-octanol/water: log Pow: -0.49
  Remarks: Calculation

Mobility in soil

No data available

Hazardous to the ozone layer

Not applicable
SAFETY DATA SHEET
Permethrin (65%) Formulation

Version 1.1
Revision Date: 2021/08/27
SDS Number: 7766193-00002
Date of last issue: 2021/02/05
Date of first issue: 2021/02/05

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

International Regulations

UNRTDG
- UN number: UN 3092
- Proper shipping name: 1-METHOXY-2-PROPANOL SOLUTION
- Class: 3
- Packing group: III
- Labels: 3

IATA-DGR
- UN/ID No.: UN 3092
- Proper shipping name: 1-Methoxy-2-propanol solution
- Class: 3
- Packing group: III
- Labels: Flammable Liquids
- Packing instruction (cargo aircraft): 366
- Packing instruction (passenger aircraft): 355

IMDG-Code
- UN number: UN 3092
- Proper shipping name: 1-METHOXY-2-PROPANOL SOLUTION (Permethrin (ISO))
- Class: 3
- Packing group: III
- Labels: 3
- EmS Code: F-E, S-D
- 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
15. REGULATORY INFORMATION

Related Regulations

Fire Service Law
Group 4, Type 2 petroleum, Water insoluble liquid, (1000 litre), Hazardous rank III

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

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

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Number</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propylene glycol monomethyl ether</td>
<td>496</td>
<td>&gt;=30 - &lt;40</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>Propylene glycol monomethyl ether</td>
<td>496</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)
Inflammable Substance
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

Class I Designated Chemical Substances

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Number</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-phenoxybenzyl 3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate</td>
<td>350</td>
<td>65</td>
</tr>
</tbody>
</table>

High Pressure Gas Safety Act
Not applicable

Explosive Control Law
Not applicable

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

Aviation Law
Flammable liquid (Article 194 of The Enforcement Rules of Aviation Law and its Attached Table 1)

Marine Pollution and Sea Disaster Prevention etc Law
- Bulk transportation: Not classified as noxious liquid substance
- 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
Specially Controlled 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

Date format: yyyy/mm/dd

Full text of other abbreviations
ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH / TWA : 8-hour, time-weighted average
ACGIH / STEL : Short-term exposure limit

AllIC - 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 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; UNRTD - 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.

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