SAFETY DATA SHEET

Permethrin (65%) Formulation

Version 1.1   Revision Date: 27.08.2021   SDS Number: 7766192-00002   Date of last issue: 05.02.2021

Date of first issue: 05.02.2021

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Permethrin (65%) Formulation

Manufacturer or supplier's details

Company: MSD

Address: Briahnager - Off Pune Nagar Road
          Wagholi - Pune - India  412 207

Telephone: +1-908-740-4000

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

Manufacture, Storage and Import of Hazardous Chemicals Rules 1989

Classification

Highly flammable liquids

GHS Classification

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
SAFETY DATA SHEET

Permethrin (65%) Formulation

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.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements:

Prevention:
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
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:
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water.
P304 + P340 + P317 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical help.
P333 + P317 If skin irritation or rash occurs: Get medical help.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.

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:
Vapours may form explosive mixture with air.

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>Permethrin (ISO)</td>
<td>52645-53-1</td>
<td>&gt;= 50 - &lt; 70</td>
</tr>
<tr>
<td>1-Methoxy-2-propanol</td>
<td>107-98-2</td>
<td>&gt;= 30 - &lt; 50</td>
</tr>
<tr>
<td>2-Methoxypropanol</td>
<td>1589-47-5</td>
<td>&gt;= 0.1 - &lt; 0.3</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. 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

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
**SAFETY DATA SHEET**

**Permethrin (65%) Formulation**

Version 1.1

Revision Date: 27.08.2021

SDS Number: 7766192-00002

Date of last issue: 05.02.2021

Date of first issue: 05.02.2021

---

**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.
- 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.

**Conditions for safe storage**

- Keep in properly labelled containers.
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>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-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: Organic vapour type

Hand protection: 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>dark amber</td>
</tr>
<tr>
<td>Odour</td>
<td>strong</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>37.8 - 40 °C</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<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>
</tbody>
</table>
SAFETY DATA SHEET

Permethrin (65%) Formulation

flammbility limit
Vapour pressure : No data available
Relative vapour density : No data available
Relative density : No data available
Density : No data available
Solubility(ies)
  Water solubility : immiscible
Partition coefficient: n-octanol/water : Not applicable
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Viscosity
  Viscosity, kinematic : No data available
Explosive properties : Not explosive
Oxidizing properties : The substance or mixture is not classified as oxidizing.
Molecular weight : No data available
Particle size : Not applicable

10. STABILITY AND REACTIVITY
Reactivity : Not classified as a reactivity hazard.
Chemical stability : Stable under normal conditions.
Possibility of hazardous reac-
tions : 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: 722.46 mg/kg
Method: Calculation method

Acute inhalation toxicity: Acute toxicity estimate: 2.88 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
Remarks: Based on data from similar materials

**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 cytogenetic assay)
    - Species: Rat
    - Application Route: Intraperitoneal injection
    - Result: negative
  - Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
    - Species: Mouse
    - Application Route: Ingestion
    - Result: positive
- **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 sister chromatid exchange assay in mammalian cells  
Result: equivocal

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 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
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: Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: inhalation (vapour)
Method: OECD Test Guideline 416
Result: negative

Effects on foetal development: Test Type: Embryo-foetal development
Species: Rat
Application Route: inhalation (vapour)
Result: negative
2-Methoxypropanol:
Effects on foetal development
Test Type: Embryo-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
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
**SAFETY DATA SHEET**

**Permethrin (65%) Formulation**

**Version** 1.1  
**Revision Date:** 27.08.2021  
**SDS Number:** 7766192-00002  
**Date of last issue:** 05.02.2021

<table>
<thead>
<tr>
<th>NOAEL</th>
<th>1,838 mg/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Route</td>
<td>Skin contact</td>
</tr>
<tr>
<td>Exposure time</td>
<td>90 Days</td>
</tr>
</tbody>
</table>

2-Methoxypropanol:

<table>
<thead>
<tr>
<th>Species</th>
<th>Rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>10.5 mg/l</td>
</tr>
<tr>
<td>Application Route</td>
<td>Inhalation (vapour)</td>
</tr>
<tr>
<td>Exposure time</td>
<td>28 Days</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Species</th>
<th>Rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>&gt; 300 mg/l</td>
</tr>
<tr>
<td>Application Route</td>
<td>Ingestion</td>
</tr>
<tr>
<td>Number of exposures</td>
<td>25 Days</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; 200 mg/l</td>
</tr>
<tr>
<td>Application Route</td>
<td>Skin contact</td>
</tr>
<tr>
<td>Number of exposures</td>
<td>90 Days</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

**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  
| Toxicity time | 96 h  |
| Toxicity to daphnia and other aquatic invertebrates | EC50 (Daphnia magna (Water flea)): 0.0001 mg/l  
| Toxicity time | 48 h  |
| Toxicity to algae/aquatic plants | ErC50 (Pseudokirchneriella subcapitata (green algae)): > 1.13 mg/l  
| Toxicity time | 72 h  |
| M-Factor (Acute aquatic toxicity) | 10,000 |
| Toxicity to microorganisms | EC50: > 1,000 mg/l  
| Toxicity time | 3 h  |
| Toxicity to fish (Chronic toxicity) | NOEC: 0.00041 mg/l |
icity)  
Exposure time: 35 d  
Species: Danio rerio (zebra fish)  
Method: OECD Test Guideline 210

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)  
NOEC: 0.0047 µg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Method: OECD Test Guideline 211

M-Factor (Chronic aquatic toxicity)  
: 10,000

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

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

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)  
NOEC: > 1 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Method: OECD Test Guideline 211  
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:

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

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 ex-
pose 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**

<table>
<thead>
<tr>
<th>UNRTDG</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>UN number</td>
<td>UN 3092</td>
<td></td>
</tr>
<tr>
<td>Proper shipping name</td>
<td>1-METHOXY-2-PROPANOL SOLUTION</td>
<td></td>
</tr>
<tr>
<td>Class</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Packing group</td>
<td>III</td>
<td></td>
</tr>
<tr>
<td>Labels</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IATA-DGR</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>UN/ID No.</td>
<td>UN 3092</td>
<td></td>
</tr>
<tr>
<td>Proper shipping name</td>
<td>1-Methoxy-2-propanol solution</td>
<td></td>
</tr>
<tr>
<td>Class</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Packing group</td>
<td>III</td>
<td></td>
</tr>
<tr>
<td>Labels</td>
<td>Flammable Liquids</td>
<td></td>
</tr>
<tr>
<td>Packing instruction (cargo aircraft)</td>
<td>366</td>
<td></td>
</tr>
<tr>
<td>Packing instruction (passenger aircraft)</td>
<td>355</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IMDG-Code</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>UN number</td>
<td>UN 3092</td>
<td></td>
</tr>
<tr>
<td>Proper shipping name</td>
<td>1-METHOXY-2-PROPANOL SOLUTION</td>
<td>(Permethrin (ISO))</td>
</tr>
<tr>
<td>Class</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Packing group</td>
<td>III</td>
<td></td>
</tr>
<tr>
<td>Labels</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>EmS Code</td>
<td>F-E, S-D</td>
<td></td>
</tr>
<tr>
<td>Marine pollutant</td>
<td>yes</td>
<td></td>
</tr>
</tbody>
</table>

**Transport in bulk according to IMO instruments**
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**

The components of this product are reported in the following inventories:

- **AICS**: not determined
- **DSL**: not determined
## SAFETY DATA SHEET

### Permethrin (65%) Formulation

**Version** 1.1  
**Revision Date:** 27.08.2021  
**SDS Number:** 7766192-00002  
**Date of last issue:** 05.02.2021  
**Date of first issue:** 05.02.2021

---

### 16. OTHER INFORMATION

**Further information**

Sources of key data used to compile the Safety Data Sheet:

Date format:
- dd.mm.yyyy

**Full text of other abbreviations**

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

---

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.

IN / EN