according to GB/T 16483 and GB/T 17519



Permethrin (65%) Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 3.0 2024/09/28 7766189-00010 Date of first issue: 2021/02/05

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Permethrin (65%) Formulation

Manufacturer or supplier's details

Company : MSD

Address : No. 485 Jing Tai Road

Pu Tuo District - Shanghai - China 200331

Telephone : +1-908-740-4000

Emergency telephone number : 86-571-87268110

E-mail address : EHSDATASTEWARD@msd.com

Recommended use of the chemical and restrictions on use

Recommended use : Veterinary product Restrictions on use : Not applicable

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance: liquidColour: dark amberOdour: strong

Flammable liquid and vapour. Harmful if swallowed or if inhaled. May cause an allergic skin reaction. May cause drowsiness or dizziness. Very toxic to aquatic life with long lasting effects.

GHS Classification

Flammable liquids : Category 3

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 4

Skin sensitisation : Category 1

Specific target organ toxicity - : Category 3

single exposure

Short-term (acute) aquatic : Category 1

hazard

Long-term (chronic) aquatic : Category 1

according to GB/T 16483 and GB/T 17519



Permethrin (65%) Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 3.0 2024/09/28 7766189-00010 Date of first issue: 2021/02/05

hazard

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.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : Prevention:

P210 Keep away from heat/ sparks/ open flames/ hot surfaces.

No smoking.

P233 Keep container tightly closed.

P241 Use explosion-proof electrical/ ventilating/ lighting equip-

ment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

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 protec-

tion/ 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/ shower. 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 ad-

vice/ 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.

according to GB/T 16483 and GB/T 17519



Permethrin (65%) Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 3.0 2024/09/28 7766189-00010 Date of first issue: 2021/02/05

Disposal:

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

Physical and chemical hazards

Flammable liquid and vapour.

Health hazards

Harmful if swallowed. Harmful if inhaled. May cause an allergic skin reaction. May cause drowsiness or dizziness.

Environmental hazards

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

Other hazards which do not result in classification

Cutaneous sensations may occur, such as burning or stinging on the face and mucosae. However, these sensations cause no lesions and are of a transitory nature (max. 24 hours). Vapours may form explosive mixture with air.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)	
Permethrin (ISO)	52645-53-1	>= 50 -< 70	
1-Methoxy-2-propanol	107-98-2	>= 30 -< 50	
2-Methoxypropanol	1589-47-5	>= 0.1 -< 0.3	

4. FIRST AID MEASURES

General advice : In the case of accident or if you feel unwell, seek medical ad-

vice 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. Flush eyes with water as a precaution.

In case of eye contact : Flush eyes with water as a precaution.

Get medical attention if irritation develops and persists.

Get medical attention it initiation develops and p

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.

according to GB/T 16483 and GB/T 17519



Permethrin (65%) Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 3.0 2024/09/28 7766189-00010 Date of first issue: 2021/02/05

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.

May cause drowsiness or dizziness. This product contains a pyrethroid.

Pyrethroid poisoning should not be confused with carbamate

or organophosphate poisoning.

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 fire-

fighting

Do not use a solid water stream as it may scatter and spread

tire

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 prod-

ucts

Chlorine compounds

Carbon oxides

Specific extinguishing meth-

ods

Use extinguishing measures that are appropriate to local cir-

cumstances 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 emer-

gency procedures

: Remove all sources of ignition.

Use personal protective equipment.

Follow safe handling advice (see section 7) and personal pro-

tective 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).

according to GB/T 16483 and GB/T 17519



Permethrin (65%) Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 3.0 2024/09/28 7766189-00010 Date of first issue: 2021/02/05

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 absor-

bent.

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 deter-

mine 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 equip-

ment.

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 as-

sessment

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

Storage

Conditions for safe storage : Keep in properly labelled containers.

Materials to avoid

according to GB/T 16483 and GB/T 17519



Permethrin (65%) Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 3.0 2024/09/28 7766189-00010 Date of first issue: 2021/02/05

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. 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

Packaging material : Unsuitable material: None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of	Control parame- ters / Permissible	Basis
		exposure)	concentration	
Permethrin (ISO)	52645-53-1	TWA	80 μg/m3 (OEB 3)	Internal
		Wipe limit	800 μg/100 cm ²	Internal
1-Methoxy-2-propanol	107-98-2	TWA	50 ppm	ACGIH
		STEL	100 ppm	ACGIH

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 con-

tainment devices). Minimize open handling.

Use explosion-proof electrical, ventilating and lighting equip-

ment.

Personal protective equipment

Respiratory protection : If adequate local exhaust ventilation is not available or expo-

sure assessment demonstrates exposures outside the rec-

ommended guidelines, use respiratory protection.

Filter type : Organic vapour type

Eye/face protection : Wear safety glasses with side shields or goggles.

If the work environment or activity involves dusty conditions,

according to GB/T 16483 and GB/T 17519



Permethrin (65%) Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 3.0 2024/09/28 7766189-00010 Date of first issue: 2021/02/05

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, dis-

posable suits) to avoid exposed skin surfaces.

Use appropriate degowning techniques to remove potentially

contaminated clothing.

Hand protection

Material : Chemical-resistant gloves

Remarks : Consider double gloving. Take note that the product is flam-

mable, which may impact the selection of hand protection.

Hygiene measures : If exposure to chemical is likely during typical use, provide

eye flushing systems and safety showers close to the work-

ing 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 : dark amber

Odour : strong

Odour Threshold : No data available

pH : No data available

Melting point/freezing point : No data available

Initial boiling point and boiling :

range

No data available

Flash point : 37.8 - 40 °C

Evaporation rate : No data available

Flammability (solid, gas) : Not applicable

according to GB/T 16483 and GB/T 17519



Permethrin (65%) Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 3.0 2024/09/28 7766189-00010 Date of first issue: 2021/02/05

Flammability (liquids) : Not applicable

Upper explosion limit / Upper

flammability limit

No data available

Lower explosion limit / Lower

flammability limit

No data available

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 characteristics

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- : Flammable liquid and vapour.

tions 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 : No hazardous decomposition products are known.

products

according to GB/T 16483 and GB/T 17519



Permethrin (65%) Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 3.0 2024/09/28 7766189-00010 Date of first issue: 2021/02/05

11. TOXICOLOGICAL INFORMATION

Exposure routes : 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: 11 mg/l

Exposure time: 4 h
Test atmosphere: vapour
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

according to GB/T 16483 and GB/T 17519



Permethrin (65%) Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 3.0 2024/09/28 7766189-00010 Date of first issue: 2021/02/05

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

according to GB/T 16483 and GB/T 17519



Permethrin (65%) Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 3.0 2024/09/28 7766189-00010 Date of first issue: 2021/02/05

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 syn-

thesis 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

according to GB/T 16483 and GB/T 17519



Permethrin (65%) Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 3.0 2024/09/28 7766189-00010 Date of first issue: 2021/02/05

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 mam-

malian cells Result: equivocal

Test Type: DNA damage and repair, unscheduled DNA syn-

thesis 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

according to GB/T 16483 and GB/T 17519



Permethrin (65%) Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 3.0 2024/09/28 7766189-00010 Date of first issue: 2021/02/05

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 mam-

malian cells Result: equivocal

Remarks: Based on data from similar materials

Test Type: DNA damage and repair, unscheduled DNA syn-

thesis 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

according to GB/T 16483 and GB/T 17519



Permethrin (65%) Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 3.0 2024/09/28 7766189-00010 Date of first issue: 2021/02/05

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 develop-

ment

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 develop-

ment

Test Type: Embryo-foetal development

Species: Rat

Application Route: inhalation (vapour)

Result: negative

2-Methoxypropanol:

Effects on foetal develop-

ment

Test Type: Embryo-foetal development

Species: Rabbit

Application Route: Inhalation

Result: positive

Reproductive toxicity - As-

sessment

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 national or regional regulation.

according to GB/T 16483 and GB/T 17519



Permethrin (65%) Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 3.0 2024/09/28 7766189-00010 Date of first issue: 2021/02/05

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

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: RatNOAEL: > 300 mg/lApplication Route: IngestionNumber of exposures: 25 Days

Remarks : Based on data from similar materials

Species : Rabbit NOAEL : > 200 mg/l

according to GB/T 16483 and GB/T 17519



Permethrin (65%) Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 3.0 2024/09/28 7766189-00010 Date of first issue: 2021/02/05

Application Route Skin contact Number of exposures 90 Days

Based on data from similar materials Remarks

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 :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 0.0001 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

ErC50 (Pseudokirchneriella subcapitata (green algae)): > 1.13

mg/l

Exposure time: 72 h

EC10 (Pseudokirchneriella subcapitata (green algae)): 0.0023

mg/l

Exposure time: 72 h

M-Factor (Acute aquatic tox- :

10,000

Toxicity to fish (Chronic tox-

icity)

NOEC (Danio rerio (zebra fish)): 0.00041 mg/l

Exposure time: 35 d

Method: OECD Test Guideline 210

aquatic invertebrates (Chron-

ic toxicity)

Toxicity to daphnia and other : NOEC (Daphnia magna (Water flea)): 0.0047 µg/l

Exposure time: 21 d

Method: OECD Test Guideline 211

M-Factor (Chronic aquatic

toxicity)

: 10,000

Toxicity to microorganisms : EC50: > 1,000 mg/l Exposure time: 3 h

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

according to GB/T 16483 and GB/T 17519



Permethrin (65%) Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 3.0 2024/09/28 7766189-00010 Date of first issue: 2021/02/05

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 daphnia and other : aquatic invertebrates (Chron-

ic 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.

according to GB/T 16483 and GB/T 17519



Permethrin (65%) Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 3.0 2024/09/28 7766189-00010 Date of first issue: 2021/02/05

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 : Do not dispose of waste into sewer.

Dispose of in accordance with local regulations.

Contaminated packaging : Empty containers should be taken to an approved waste han-

dling 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

according to GB/T 16483 and GB/T 17519



Permethrin (65%) Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 3.0 2024/09/28 7766189-00010 Date of first issue: 2021/02/05

Environmentally hazardous : no

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 : 366

aircraft)

Packing instruction (passen: 355

ger aircraft)

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

GB 6944/12268

UN number : UN 3092

Proper shipping name : 1-METHOXY-2-PROPANOL SOLUTION

Class : 3
Packing group : III
Labels : 3
Marine pollutant : no

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

National regulatory information

Law on the Prevention and Control of Occupational Diseases

Regulations on Safety Management of Hazardous Chemicals

Catalogue of Hazardous Chemicals : Listed

Identification of Major Hazard Installations for Hazardous Chemicals (GB 18218)

No. / Code Chemical name / Category Threshold quantity

W5.4 Flammable liquids 5,000 t

according to GB/T 16483 and GB/T 17519



Permethrin (65%) Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 3.0 2024/09/28 7766189-00010 Date of first issue: 2021/02/05

Hazardous Chemicals for Priority Management under

SAWS

Regulations on Labour Protection in Workplaces where Toxic Substances are Used

Catalogue of Highly Toxic Chemicals : Not listed

Regulation of Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals

China Severely Restricted Toxic Chemicals for Import : Not listed

and Export

Regulation on the Administration of Precursor Chemicals

Catalogue and Classification of Precursor Chemicals

Yangtze River Protection Law

This product does not contain any dangerous chemicals prohibited for inland river transport.

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

AICS not determined

DSL not determined

IECSC not determined

16. OTHER INFORMATION

Revision Date : 2024/09/28

Further information

compile the Safety Data

Sheet

Sources of key data used to : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agen-

cy, http://echa.europa.eu/

Items where changes have been made to the previous version are highlighted in the body of this

document by two vertical lines.

Date format : yyyy/mm/dd

Full text of other abbreviations

ACGIH USA. ACGIH Threshold Limit Values (TLV)

ACGIH / TWA 8-hour, time-weighted average ACGIH / STEL Short-term exposure limit

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR -Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with

according to GB/T 16483 and GB/T 17519



Permethrin (65%) Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 3.0 2024/09/28 7766189-00010 Date of first issue: 2021/02/05

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 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

Disclaimer

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.

CN / EN