

Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 23.03.2020
3.5	09.10.2020	2333316-00010	Date of first issue: 12.12.2017

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Deltamethrin (5%) Formulation

Manufacturer or supplier's details

Company : MSD

Address : 91-105 Harpin Street
Bendigo 3550, Victoria Australia

Telephone : 908-740-4000

Emergency telephone number : 1 800 033 461

E-mail address : EHSDATASTEWARD@msd.com

Telefax : 1 800 817 414

Recommended use of the chemical and restrictions on use

Recommended use : Veterinary product

SECTION 2. HAZARDS IDENTIFICATION**GHS Classification**

Flammable liquids : Category 3

Acute toxicity (Oral) : Category 4

Skin corrosion/irritation : Category 2

Serious eye damage/eye irritation : Category 1

Skin sensitisation : Category 1

Germ cell mutagenicity : Category 1B

Carcinogenicity : Category 1B

Reproductive toxicity : Category 2

Specific target organ toxicity - single exposure : Category 3

Specific target organ toxicity - repeated exposure (Oral) : Category 2 (Central nervous system, Immune system)

Specific target organ toxicity - repeated exposure (Inhalation) : Category 2 (Central nervous system)

Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 23.03.2020
3.5	09.10.2020	2333316-00010	Date of first issue: 12.12.2017

Aspiration hazard : Category 1

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements :

- H226 Flammable liquid and vapour.
- H302 Harmful if swallowed.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H336 May cause drowsiness or dizziness.
- H340 May cause genetic defects.
- H350 May cause cancer.
- H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
- H373 May cause damage to organs (Central nervous system, Immune system) through prolonged or repeated exposure if swallowed.
- H373 May cause damage to organs (Central nervous system) through prolonged or repeated exposure if inhaled.

Precautionary statements :

Prevention:

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
- P233 Keep container tightly closed.
- P241 Use explosion-proof electrical/ ventilating/ lighting equipment.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P260 Do not breathe mist or vapours.
- P264 Wash skin thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated area.
- P272 Contaminated work clothing should not be allowed out of the workplace.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- P281 Use personal protective equipment as required.

Response:

- P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
- P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
- P304 + P340 + P312 IF INHALED: Remove victim to fresh air

Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 23.03.2020
3.5	09.10.2020	2333316-00010	Date of first issue: 12.12.2017

and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P331 Do NOT induce vomiting.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.

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

Vapours may form explosive mixture with air.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Solvent naphtha (petroleum), light aromatic	64742-95-6	>= 30 -< 60
2-Methoxy-1-methylethyl acetate	108-65-6	>= 20 -< 30
Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts	Not Assigned	>= 3 -< 10
2-Methyl-1-propanol	78-83-1	>= 3 -< 10
deltamethrin (ISO)	52918-63-5	>= 3 -< 10

SECTION 4. FIRST AID MEASURES

General advice	:	In the case of accident or if you feel unwell, seek medical advice immediately. When symptoms persist or in all cases of doubt seek medical advice.
If inhaled	:	If inhaled, remove to fresh air. Get medical attention.
In case of skin contact	:	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.
In case of eye contact	:	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.

Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 23.03.2020
3.5	09.10.2020	2333316-00010	Date of first issue: 12.12.2017

If swallowed	:	<p>If easy to do, remove contact lens, if worn. Get medical attention immediately.</p> <p>If swallowed, DO NOT induce vomiting. If vomiting occurs have person lean forward. Call a physician or poison control centre immediately. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person.</p>
Most important symptoms and effects, both acute and delayed	:	<p>Harmful if swallowed. May be fatal if swallowed and enters airways. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage. May cause drowsiness or dizziness. May cause genetic defects. May cause cancer. Suspected of damaging fertility. Suspected of damaging the unborn child. May cause damage to organs through prolonged or repeated exposure if swallowed. May cause damage to organs through prolonged or repeated exposure if inhaled.</p>
Protection of first-aiders	:	<p>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).</p>
Notes to physician	:	<p>Treat symptomatically and supportively.</p>

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	<p>Water spray Alcohol-resistant foam Carbon dioxide (CO₂) Dry chemical</p>
Unsuitable extinguishing media	:	<p>High volume water jet</p>
Specific hazards during fire-fighting	:	<p>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.</p>
Hazardous combustion products	:	<p>Carbon oxides Nitrogen oxides (NO_x) Bromine compounds Sulphur oxides Metal oxides</p>
Specific extinguishing methods	:	<p>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.</p>
Special protective equipment for firefighters	:	<p>In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.</p>
Hazchem Code	:	<p>•3Y</p>

Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 23.03.2020
3.5	09.10.2020	2333316-00010	Date of first issue: 12.12.2017

SECTION 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.

SECTION 7. HANDLING AND STORAGE

- Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
- Local/Total ventilation : If sufficient ventilation is unavailable, use with local exhaust ventilation.
Use explosion-proof electrical, ventilating and lighting equipment.
- Advice on safe handling : Do not get on skin or clothing.
Do not breathe mist or vapours.
Do not swallow.
Do not get in eyes.
Wash skin thoroughly after handling.
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
Non-sparking tools should be used.
Keep container tightly closed.
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

Deltamethrin (5%) Formulation

Version 3.5 Revision Date: 09.10.2020 SDS Number: 2333316-00010 Date of last issue: 23.03.2020
 Date of first issue: 12.12.2017

- Hygiene measures : environment.
 : 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.
- Conditions for safe storage : Keep in properly labelled containers.
 Store locked up.
 Keep tightly closed.
 Keep in a cool, well-ventilated place.
 Store in accordance with the particular national regulations.
 Keep away from heat and sources of ignition.
- Materials to avoid : Do not store with the following product types:
 Self-reactive substances and mixtures
 Organic peroxides
 Oxidizing agents
 Flammable gases
 Pyrophoric liquids
 Pyrophoric solids
 Self-heating substances and mixtures
 Poisonous gases
 Explosives

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Solvent naphtha (petroleum), light aromatic	64742-95-6	TWA	900 mg/m ³	AU OEL
		TWA	200 mg/m ³ (total hydrocarbon vapor)	ACGIH
2-Methoxy-1-methylethyl acetate	108-65-6	TWA	50 ppm 274 mg/m ³	AU OEL
Further information: Skin absorption				
		STEL	100 ppm 548 mg/m ³	AU OEL
Further information: Skin absorption				
2-Methyl-1-propanol	78-83-1	TWA	50 ppm 152 mg/m ³	AU OEL
		TWA	50 ppm	ACGIH
deltamethrin (ISO)	52918-63-5	TWA	15 µg/m ³ (OEB 3)	Internal
Further information: DSEN, Skin				
		Wipe limit	150 µg/100 cm ²	Internal

Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 23.03.2020
3.5	09.10.2020	2333316-00010	Date of first issue: 12.12.2017

Engineering measures : Use explosion-proof electrical, ventilating and lighting equipment.

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.

Personal protective equipment

Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

Filter type : Combined particulates and organic vapour type

Hand protection

Material : Chemical-resistant gloves

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

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

If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles.

Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols.

Skin and body protection : Work uniform or laboratory coat.

Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces.

Use appropriate degowning techniques to remove potentially contaminated clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : yellow

Odour : No data available

Odour Threshold : No data available

pH : 3 - 5

Melting point/freezing point : No data available

Initial boiling point and boiling : No data available

Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 23.03.2020
3.5	09.10.2020	2333316-00010	Date of first issue: 12.12.2017

range

Flash point : 45 - 51 °C

Evaporation rate : No data available

Flammability (solid, gas) : Not applicable

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 : 0.963 - 0.967 g/cm³Solubility(ies)
Water solubility : completely miscible

Partition coefficient: n-octanol/water : No data available

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

SECTION 10. STABILITY AND REACTIVITY

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

Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 23.03.2020
3.5	09.10.2020	2333316-00010	Date of first issue: 12.12.2017

Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Oxidizing agents
Hazardous decomposition products	:	No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Exposure routes	:	Inhalation Skin contact Ingestion Eye contact
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Acute toxicity

Harmful if swallowed.

Product:

Acute oral toxicity	:	Acute toxicity estimate: 1,334 mg/kg Method: Calculation method
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Acute inhalation toxicity	:	Acute toxicity estimate: > 5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method
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Components:**Solvent naphtha (petroleum), light aromatic:**

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg
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Acute inhalation toxicity	:	LC50 (Rat): > 5.61 mg/l Exposure time: 4 h Test atmosphere: vapour
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Acute dermal toxicity	:	LD50 (Rabbit): > 2,000 mg/kg
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2-Methoxy-1-methylethyl acetate:

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg
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Acute inhalation toxicity	:	LC0 (Rat): 9.48 mg/l Exposure time: 4 h Test atmosphere: vapour
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Acute dermal toxicity	:	LD50 (Rat): > 5,000 mg/kg
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Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:

Acute oral toxicity	:	LD50 (Rat): 4,445 mg/kg
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Acute dermal toxicity	:	LD50 (Rat): > 2,000 mg/kg Method: OECD Test Guideline 402 Remarks: Based on data from similar materials
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2-Methyl-1-propanol:

Acute oral toxicity	:	LD50 (Rat): 3,350 mg/kg
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Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 23.03.2020
3.5	09.10.2020	2333316-00010	Date of first issue: 12.12.2017

Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 24.6 mg/l
Exposure time: 4 h
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): 2,460 mg/kg
Method: OECD Test Guideline 402

deltamethrin (ISO):

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

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

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

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

Skin corrosion/irritation

Causes skin irritation.

Components:**Solvent naphtha (petroleum), light aromatic:**

Species : Rabbit
Method : OECD Test Guideline 404
Result : Skin irritation

2-Methoxy-1-methylethyl acetate:

Species : Rabbit
Result : No skin irritation

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

Species : Rabbit
Method : OECD Test Guideline 404
Result : Skin irritation

2-Methyl-1-propanol:

Species : Rabbit
Method : OECD Test Guideline 404

Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 23.03.2020
3.5	09.10.2020	2333316-00010	Date of first issue: 12.12.2017

Result : Skin irritation

deltamethrin (ISO):

Species : Rabbit
Result : No skin irritation

Serious eye damage/eye irritation

Causes serious eye damage.

Components:**Solvent naphtha (petroleum), light aromatic:**

Species : Rabbit
Result : No eye irritation
Method : OECD Test Guideline 405

2-Methoxy-1-methylethyl acetate:

Species : Rabbit
Result : No eye irritation

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

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

2-Methyl-1-propanol:

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

deltamethrin (ISO):

Species : Rabbit
Result : Moderate eye irritation

Respiratory or skin sensitisation**Skin sensitisation**

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified based on available information.

Components:**Solvent naphtha (petroleum), light aromatic:**

Test Type : Buehler Test
Exposure routes : Skin contact
Species : Guinea pig
Result : negative

Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 23.03.2020
3.5	09.10.2020	2333316-00010	Date of first issue: 12.12.2017

2-Methoxy-1-methylethyl acetate:

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

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

Test Type	: Magnusson-Kligman-Test
Exposure routes	: Skin contact
Species	: Guinea pig
Method	: OECD Test Guideline 406
Remarks	: Based on data from similar materials

2-Methyl-1-propanol:

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

deltamethrin (ISO):

Test Type	: Maximisation Test
Exposure routes	: Dermal
Species	: Guinea pig
Result	: negative
	: Human repeat insult patch test (HRIPT)
	: Dermal
	: Humans
	: positive

Chronic toxicity**Germ cell mutagenicity**

May cause genetic defects.

Components:**Solvent naphtha (petroleum), light aromatic:**

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

	Test Type: In vitro mammalian cell gene mutation test
	Result: positive

Genotoxicity in vivo	: Test Type: Sister chromatid exchange analysis in spermatogonia
	Species: Mouse
	Application Route: Intraperitoneal injection
	Result: positive

Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 23.03.2020
3.5	09.10.2020	2333316-00010	Date of first issue: 12.12.2017

Germ cell mutagenicity - Assessment : Positive result(s) from in vivo heritable germ cell mutagenicity tests in mammals

2-Methoxy-1-methylethyl acetate:

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

Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
Result: negative

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

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

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: Directive 67/548/EEC, Annex, B.13/14
Result: negative
Remarks: Based on data from similar materials

2-Methyl-1-propanol:

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

Test Type: Chromosome aberration test in vitro
Result: negative

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

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

deltamethrin (ISO):

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

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

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

Test Type: In vitro mammalian cell gene mutation test
Test system: Chinese hamster lung cells

Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 23.03.2020
3.5	09.10.2020	2333316-00010	Date of first issue: 12.12.2017

Concentration: LOAEL: 20 mg/kg
Result: positive

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

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

Test Type: sister chromatid exchange assay
Species: Mouse
Cell type: Bone marrow
Application Route: Oral
Result: negative

Carcinogenicity

May cause cancer.

Components:

Solvent naphtha (petroleum), light aromatic:

Species : Mouse
Application Route : Skin contact
Exposure time : 2 Years
Result : positive

Carcinogenicity - Assessment : Sufficient evidence of carcinogenicity in animal experiments

2-Methoxy-1-methylethyl acetate:

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

deltamethrin (ISO):

Species : Mouse, male and female
Application Route : oral (feed)
Exposure time : 104 weeks
NOAEL : 8 mg/kg body weight
LOAEL : 4 mg/kg body weight
Result : positive
Target Organs : Lymph nodes

Species : Rat, male and female
Application Route : oral (feed)
Exposure time : 2 Years
Result : negative

Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 23.03.2020
3.5	09.10.2020	2333316-00010	Date of first issue: 12.12.2017

Species	: Dog, male and female
Application Route	: oral (feed)
Exposure time	: 2 Years
NOAEL	: 1 mg/kg body weight
Result	: negative

Reproductive toxicity

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

Components:**Solvent naphtha (petroleum), light aromatic:**

Effects on fertility	: Test Type: Reproduction/Developmental toxicity screening test Species: Rat Application Route: inhalation (vapour) Result: negative
Effects on foetal development	: Test Type: Embryo-foetal development Species: Rat Application Route: inhalation (vapour) Result: negative

2-Methoxy-1-methylethyl acetate:

Effects on fertility	: Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: inhalation (vapour) Method: OECD Test Guideline 416 Result: negative Remarks: Based on data from similar materials
Effects on foetal development	: Test Type: Embryo-foetal development Species: Rat Application Route: inhalation (vapour) Result: negative

2-Methyl-1-propanol:

Effects on fertility	: Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: inhalation (vapour) Method: OPPTS 870.3800 Result: negative
Effects on foetal development	: Test Type: Embryo-foetal development Species: Rat Application Route: inhalation (vapour) Method: OECD Test Guideline 414 Result: negative

deltamethrin (ISO):

Effects on fertility	: Test Type: Three-generation reproduction toxicity study Species: Rat
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Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 23.03.2020
3.5	09.10.2020	2333316-00010	Date of first issue: 12.12.2017

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

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

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

Effects on foetal development : Test Type: Development
 Species: Mouse
 Application Route: oral (gavage)
 Developmental Toxicity: LOAEL: 1 mg/kg body weight
 Result: Skeletal malformations
 Remarks: Maternal toxicity observed.

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

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

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

STOT - single exposure

May cause drowsiness or dizziness.

Components:

Solvent naphtha (petroleum), light aromatic:

Assessment : May cause drowsiness or dizziness.

2-Methoxy-1-methylethyl acetate:

Assessment : May cause drowsiness or dizziness.

Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 23.03.2020
3.5	09.10.2020	2333316-00010	Date of first issue: 12.12.2017

2-Methyl-1-propanol:

Assessment : May cause respiratory irritation.
May cause drowsiness or dizziness.

deltamethrin (ISO):

Assessment : May cause respiratory irritation.

STOT - repeated exposure

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

May cause damage to organs (Central nervous system) through prolonged or repeated exposure if inhaled.

Components:**deltamethrin (ISO):**

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

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

Repeated dose toxicity**Components:****Solvent naphtha (petroleum), light aromatic:**

Species : Rat
LOAEL : 500 mg/kg
Application Route : Ingestion
Exposure time : 28 Days

2-Methoxy-1-methylethyl acetate:

Species : Rat
NOAEL : > 1,000 mg/kg
Application Route : Ingestion
Exposure time : 41 - 45 Days
Method : OECD Test Guideline 422

Species : Mouse
NOAEL : 1.62 mg/l
Application Route : inhalation (vapour)
Exposure time : 2 yr
Remarks : Based on data from similar materials

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

Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 23.03.2020
3.5	09.10.2020	2333316-00010	Date of first issue: 12.12.2017

Remarks : Based on data from similar materials

2-Methyl-1-propanol:

Species : Rat
NOAEL : > 1,450 mg/kg
Application Route : Ingestion
Exposure time : 90 Days
Method : OECD Test Guideline 408

deltamethrin (ISO):

Species : Rat, male and female
NOAEL : 1 mg/kg
LOAEL : 2.5 mg/kg
Application Route : Oral
Exposure time : 13 Weeks
Target Organs : Nervous system
Symptoms : hyperexcitability

Species : Rat
LOAEL : 3 mg/m³
Application Route : inhalation (dust/mist/fume)
Exposure time : 2 wk / 5 d/wk / 6 h/d
Symptoms : Local irritation, respiratory tract irritation

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

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

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

Aspiration toxicity

May be fatal if swallowed and enters airways.

Product:

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

Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 23.03.2020
3.5	09.10.2020	2333316-00010	Date of first issue: 12.12.2017

Components:**Solvent naphtha (petroleum), light aromatic:**

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

2-Methyl-1-propanol:

The substance or mixture causes concern owing to the assumption that it causes a human aspiration toxicity hazard.

Experience with human exposure**Components:****deltamethrin (ISO):**

Inhalation	:	Symptoms: respiratory tract irritation, Dizziness, Sweating, Headache, Nausea, Vomiting, anorexia, Fatigue, tingling, Palpitation, Blurred vision, muscle twitching
Skin contact	:	Symptoms: Skin irritation, Erythema, pruritis, Headache, Nausea, Vomiting, Dizziness, tingling, Sweating, muscle twitching, Blurred vision, Fatigue, anorexia, Allergic reactions
Ingestion	:	Symptoms: muscle pain, Small pupils

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Components:****Solvent naphtha (petroleum), light aromatic:**

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 8.2 mg/l Exposure time: 96 h Test substance: Water Accommodated Fraction
Toxicity to daphnia and other aquatic invertebrates	:	EL50 (Daphnia magna (Water flea)): 4.5 mg/l Exposure time: 48 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EL50 (Pseudokirchneriella subcapitata (microalgae)): 3.1 mg/l Exposure time: 96 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 201 NOELR (Pseudokirchneriella subcapitata (microalgae)): 0.5 mg/l Exposure time: 96 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 201
Toxicity to daphnia and other aquatic invertebrates (Chron-	:	NOELR (Daphnia magna (Water flea)): 2.6 mg/l Exposure time: 21 d

Version	Revision Date:	SDS Number:	Date of last issue: 23.03.2020
3.5	09.10.2020	2333316-00010	Date of first issue: 12.12.2017

Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 211

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 - 180 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 500 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): > 1,000 mg/l Exposure time: 96 h Method: OECD Test Guideline 201 NOEC (Pseudokirchneriella subcapitata (algae)): > 1,000 mg/l Exposure time: 96 h Method: OECD Test Guideline 201
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): >= 100 mg/l Exposure time: 21 d Method: OECD Test Guideline 211
Toxicity to microorganisms	:	EC10: > 1,000 mg/l Exposure time: 0.5 h

Toxicity to fish	:	LC50: > 1 - < 10 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 1 - 10 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: Based on data from similar materials
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): > 10 - 100 mg/l Exposure time: 96 h Remarks: Based on data from similar materials NOEC (Pseudokirchneriella subcapitata (green algae)): > 0.1 - 1 mg/l Exposure time: 96 h Remarks: Based on data from similar materials
Toxicity to fish (Chronic toxicity)	:	NOEC (Oncorhynchus mykiss (rainbow trout)): > 0.1 - 1 mg/l Exposure time: 72 d Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates (Chronic)	:	NOEC (Daphnia magna (Water flea)): > 1 mg/l Exposure time: 21 d

Version	Revision Date:	SDS Number:	Date of last issue: 23.03.2020
3.5	09.10.2020	2333316-00010	Date of first issue: 12.12.2017

21 / 26

Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 23.03.2020
3.5	09.10.2020	2333316-00010	Date of first issue: 12.12.2017

aquatic invertebrates (Chronic toxicity) Exposure time: 21 d

Persistence and degradability**Components:****Solvent naphtha (petroleum), light aromatic:**

Biodegradability : Result: Inherently biodegradable.
Biodegradation: 94 %
Exposure time: 25 d

2-Methoxy-1-methylethyl acetate:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 90 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

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

Biodegradability : Result: Readily biodegradable.
Biodegradation: 100 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

2-Methyl-1-propanol:

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

deltamethrin (ISO):

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

Bioaccumulative potential**Components:****2-Methoxy-1-methylethyl acetate:**

Partition coefficient: n-octanol/water : log Pow: 1.2

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

Partition coefficient: n-octanol/water : log Pow: 2.89

2-Methyl-1-propanol:

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

deltamethrin (ISO):

Bioaccumulation : Species: *Lepomis macrochirus* (Bluegill sunfish)
Bioconcentration factor (BCF): 1,800

Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 23.03.2020
3.5	09.10.2020	2333316-00010	Date of first issue: 12.12.2017

Partition coefficient: n-octanol/water : log Pow: 4.6

Mobility in soil

Components:

deltamethrin (ISO):

Distribution among environmental compartments : log Koc: 7.2

Other adverse effects

No data available

SECTION 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.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number : UN 1993
 Proper shipping name : FLAMMABLE LIQUID, N.O.S.
 (Solvent naphtha (petroleum), light aromatic, 2-Methoxy-1-methylethyl acetate)
 Class : 3
 Packing group : III
 Labels : 3

IATA-DGR

UN/ID No. : UN 1993
 Proper shipping name : Flammable liquid, n.o.s.
 (Solvent naphtha (petroleum), light aromatic, 2-Methoxy-1-methylethyl acetate)
 Class : 3
 Packing group : III
 Labels : Flammable Liquids
 Packing instruction (cargo aircraft) : 366
 Packing instruction (passenger aircraft) : 355

IMDG-Code

UN number : UN 1993
 Proper shipping name : FLAMMABLE LIQUID, N.O.S.
 (Solvent naphtha (petroleum), light aromatic, 2-Methoxy-1-

Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 23.03.2020
3.5	09.10.2020	2333316-00010	Date of first issue: 12.12.2017

methylethyl acetate, deltamethrin (ISO))

Class	:	3
Packing group	:	III
Labels	:	3
EmS Code	:	F-E, <u>S-E</u>
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**ADG**

UN number	:	UN 1993
Proper shipping name	:	FLAMMABLE LIQUID, N.O.S. (Solvent naphtha (petroleum), light aromatic, 2-Methoxy-1-methylethyl acetate)
Class	:	3
Packing group	:	III
Labels	:	3
Hazchem Code	:	•3Y

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.

SECTION 15. REGULATORY INFORMATION**Safety, health and environmental regulations/legislation specific for the substance or mixture**

Prohibition/Licensing Requirements	:	There is no applicable prohibition, authorisation and restricted use requirements, including for carcinogens referred to in Schedule 10 of the model WHS Act and Regulations.
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The components of this product are reported in the following inventories:

AICS	:	not determined
DSL	:	not determined
IECSC	:	not determined

SECTION 16. OTHER INFORMATION**Further information**

Revision Date	:	09.10.2020
Sources of key data used to	:	Internal technical data, data from raw material SDSs, OECD

Version	Revision Date:	SDS Number:	Date of last issue: 23.03.2020
3.5	09.10.2020	2333316-00010	Date of first issue: 12.12.2017

Full text of other abbreviations

ACGIH / TWA	:	8-hour, time-weighted average
AU OEL / TWA	:	Exposure standard - time weighted average
AU OEL / STEL	:	Exposure standard - 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 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; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

SAFETY DATA SHEET



Deltamethrin (5%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 23.03.2020
3.5	09.10.2020	2333316-00010	Date of first issue: 12.12.2017

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