

**Indoxacarb / Permethrin Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 09.07.2024
10.1	14.04.2025	27899-00027	Date of first issue: 04.11.2014

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**Section 1: Identification**

Product name : Indoxacarb / Permethrin Formulation

**Manufacturer or supplier's details**

Company : MSD

Address : 33 Whakatiki Street - Private Bag 908  
Upper Hutt - New Zealand

Telephone : 0800 800 543

Emergency telephone number : 0800 764 766 (0800 POISON) 0800 243 622 (0800  
CHEMCALL)

E-mail address : EHSDATASTEWARD@msd.com

**Recommended use of the chemical and restrictions on use**

Recommended use : Veterinary product

Restrictions on use : Not applicable

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**Section 2: Hazard identification****GHS Classification**

Flammable liquids : Category 3

Acute toxicity (Oral) : Category 3

Acute toxicity (Inhalation) : Category 4

Serious eye damage/eye irritation : Category 2

Respiratory sensitisation : Category 1

Skin sensitisation : Category 1

Specific target organ toxicity - single exposure : Category 2

Specific target organ toxicity - single exposure : Category 3

Specific target organ toxicity - repeated exposure : Category 1 (Blood, Nervous system, Heart)

Specific target organ toxicity - : Category 2

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repeated exposure

Hazardous to the aquatic environment - acute hazard : Category 1

Hazardous to the aquatic environment - chronic hazard : Category 1

**GHS label elements**

Hazard pictograms :



Signal word : Danger

Hazard statements :

- H226 Flammable liquid and vapour.
- H301 Toxic if swallowed.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H336 May cause drowsiness or dizziness.
- H371 May cause damage to organs.
- H372 Causes damage to organs (Blood, Nervous system, Heart) through prolonged or repeated exposure.
- H373 May cause damage to organs through prolonged or repeated exposure.
- 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.
- P233 Keep container tightly closed.
- P241 Use explosion-proof electrical/ ventilating/ lighting equipment.
- P242 Use non-sparking tools.
- P243 Take action to prevent static discharges.
- P260 Do not breathe mist or vapours.
- P264 Wash skin thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated area.
- P272 Contaminated work clothing should not be allowed out of the workplace.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- P284 Wear respiratory protection.

**Response:**

P301 + P310 + P330 IF SWALLOWED: Immediately call a

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POISON CENTER/ doctor. Rinse mouth.  
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.  
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.  
P391 Collect spillage.

**Storage:**

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

**Disposal:**

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

**Other hazards which do not result in classification**

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.

**Section 3: Composition/information on ingredients**

Substance / Mixture : Mixture

**Components**

Chemical name	CAS-No.	Concentration (% w/w)
Permethrin (ISO)	52645-53-1	>= 30 -< 50
1-Methoxy-2-propanol	107-98-2	>= 30 -< 50
Indoxacarb (ISO)	173584-44-6	>= 10 -< 20

**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.  
If not breathing, give artificial respiration.  
If breathing is difficult, give oxygen.

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In case of skin contact	:	Get medical attention if symptoms occur. 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	:	This product contains a pyrethroid. Pyrethroid poisoning should not be confused with carbamate or organophosphate poisoning. Toxic if swallowed. May cause an allergic skin reaction. Causes serious eye irritation. Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause drowsiness or dizziness. May cause damage to organs. Causes damage to organs through prolonged or repeated exposure.
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.

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**Section 5: Fire-fighting measures**

Suitable extinguishing media	:	Water spray Alcohol-resistant foam Carbon dioxide (CO <sub>2</sub> ) 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 fire. Flash back possible over considerable distance. Vapours may form explosive mixtures with air. Exposure to combustion products may be a hazard to health.
Hazardous combustion products	:	Carbon oxides Chlorine compounds
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

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so.  
Evacuate area.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.  
Use personal protective equipment.

Hazchem Code : 2Y

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**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.

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**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.

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- 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.
- 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.
- 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
Permethrin (ISO)	52645-53-1	TWA	80 µg/m <sup>3</sup> (OEB 3)	Internal
		Wipe limit	800 µg/100 cm <sup>2</sup>	Internal
1-Methoxy-2-propanol	107-98-2	WES-TWA	100 ppm 369 mg/m <sup>3</sup>	NZ OEL
		WES-STEL	150 ppm 553 mg/m <sup>3</sup>	NZ OEL
		TWA	50 ppm	ACGIH

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		STEL	100 ppm	ACGIH
Indoxacarb (ISO)	173584-44-6	TWA	50 µg/m3 (OEB 3)	Internal
Further information: DSEN				
		Wipe limit	100 µg/100 cm2	Internal

**Engineering measures** : Minimize workplace exposure concentrations.  
 If sufficient ventilation is unavailable, use with local exhaust ventilation.  
 Use explosion-proof electrical, ventilating and lighting equipment.

**Personal protective equipment**

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

Filter type : Combined particulates and organic vapour type  
 Hand protection

Material : Chemical-resistant gloves

Remarks : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Take note that the product is flammable, which may impact the selection of hand protection. Wash hands before breaks and at the end of workday.

Eye protection : Wear the following personal protective equipment:  
 Safety glasses

Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.  
 Wear the following personal protective equipment:  
 If assessment demonstrates that there is a risk of explosive atmospheres or flash fires, use flame retardant antistatic protective clothing.  
 Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

**Section 9: Physical and chemical properties**

Appearance : liquid  
 Colour : Clear white to yellow.  
 Odour : ether-like  
 Odour Threshold : No data available  
 pH : No data available

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Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	33.5 °C
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Flammability (liquids)	:	No data available
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	:	1.096
Density	:	No data available
Solubility(ies) Water solubility	:	No data available
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



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**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.
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**

Toxic if swallowed.  
Harmful if inhaled.

**Product:**

Acute oral toxicity	:	Acute toxicity estimate: 194.33 mg/kg Method: Calculation method
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Acute inhalation toxicity	:	Acute toxicity estimate: 4.48 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method
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**Components:****Permethrin (ISO):**

Acute oral toxicity	:	Acute toxicity estimate: 100 mg/kg Method: Expert judgement Remarks: Based on national or regional regulation.
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Acute inhalation toxicity	:	LC50 (Rat): 2.3 mg/l Exposure time: 4 h Test atmosphere: dust/mist
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Acute dermal toxicity	:	LD50 (Rabbit): > 2,000 mg/kg
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**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

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Test atmosphere: vapour

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

**Indoxacarb (ISO):**

Acute oral toxicity : LD50 (Rat, female): 179 mg/kg  
Symptoms: Loss of reflexes, Breathing difficulties, Tremors

LD50 (Rat, male): 843 mg/kg

Acute inhalation toxicity : LC50 (Rat, female): 4.2 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat, male and female): > 5,000 mg/kg

**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

**Indoxacarb (ISO):**

Result : No skin irritation

**Serious eye damage/eye irritation**

Causes serious eye irritation.

**Components:****Permethrin (ISO):**

Result : Irritation to eyes, reversing within 21 days  
Remarks : Based on national or regional regulation.

**1-Methoxy-2-propanol:**

Result : Irritation to eyes, reversing within 21 days  
Remarks : Based on national or regional regulation.

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**Indoxacarb (ISO):**

Result : No eye irritation

**Respiratory or skin sensitisation****Skin sensitisation**

May cause an allergic skin reaction.

**Respiratory sensitisation**

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**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

Assessment : May cause sensitisation by inhalation.

Remarks : Based on national or regional regulation.

**1-Methoxy-2-propanol:**

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

**Indoxacarb (ISO):**

Test Type : Maximisation Test  
Species : Guinea pig  
Result : positive

**Chronic toxicity****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

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- 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 syn-

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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

**Indoxacarb (ISO):**

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

Test Type: Chromosomal aberration  
Test system: mammalian cells  
Result: negative

Test Type: In vitro mammalian cell gene mutation test  
Test system: Chinese hamster ovary cells  
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test  
Species: Mouse  
Cell type: Bone marrow  
Result: negative

**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

**Indoxacarb (ISO):**

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

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Frequency of Treatment : daily  
Result : negative

Species : Mouse, male and female  
Application Route : oral (feed)  
Exposure time : 18 Months  
Frequency of Treatment : daily  
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

**Indoxacarb (ISO):**

Effects on fertility : Test Type: Two-generation study  
Species: Rat  
Application Route: Oral  
General Toxicity F1: NOAEL: 1.3 mg/kg body weight  
Result: negative

Test Type: Two-generation study  
Species: Rat  
Application Route: Oral  
General Toxicity - Parent: NOAEL: 1.3 mg/kg body weight  
General Toxicity F1: NOAEL: > 6.7 mg/kg body weight  
Result: Embryotoxic effects and adverse effects on the off-

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spring were detected.

Effects on foetal development

: Test Type: Development  
Species: Rat  
Developmental Toxicity: NOAEL: 2 mg/kg body weight  
Result: No teratogenic effects

Test Type: Development  
Species: Rabbit  
Application Route: Oral  
Developmental Toxicity: NOAEL: 500 mg/kg body weight  
Result: No adverse effects

Test Type: Development  
Species: Rat  
Application Route: Oral  
Developmental Toxicity: NOAEL: 10 mg/kg body weight

Test Type: Development  
Species: Rat  
Application Route: Oral  
Developmental Toxicity: LOAEL: 100 mg/kg body weight

**STOT - single exposure**

May cause drowsiness or dizziness.  
May cause damage to organs.

**Components:****Permethrin (ISO):**

Assessment : May cause damage to organs.  
Remarks : Based on national or regional regulation.

**1-Methoxy-2-propanol:**

Assessment : May cause drowsiness or dizziness.

**STOT - repeated exposure**

Causes damage to organs (Blood, Nervous system, Heart) through prolonged or repeated exposure.  
May cause damage to organs through prolonged or repeated exposure.

**Components:****Permethrin (ISO):**

Assessment : May cause damage to organs through prolonged or repeated exposure.  
Remarks : Based on national or regional regulation.

**Indoxacarb (ISO):**

Target Organs : Blood, Nervous system, Heart

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Assessment : Causes damage to organs through prolonged or repeated exposure.

**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

**Indoxacarb (ISO):**

Species : Rat, male and female  
NOAEL : 1.7 mg/kg  
LOAEL : 4.1 mg/kg  
Application Route : Oral  
Exposure time : 90 d  
Target Organs : Blood, Central nervous system

Species : Rat, male and female  
NOAEL : 50 mg/kg  
LOAEL : 500 mg/kg  
Application Route : Dermal  
Exposure time : 28 d  
Target Organs : Blood

Species : Rat



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NOAEL	: 4.6 mg/m <sup>3</sup>
LOAEL	: 23 mg/m <sup>3</sup>
Application Route	: Inhalation
Exposure time	: 4 Weeks
Target Organs	: Blood, Lungs

Species	: Rat, male and female
NOAEL	: 1 mg/kg
LOAEL	: 2 mg/kg
Application Route	: Oral
Exposure time	: 1 yr
Target Organs	: Blood

Species	: Dog
NOAEL	: 1 mg/kg
LOAEL	: 2 mg/kg
Application Route	: Oral
Exposure time	: 1 yr
Target Organs	: Blood

Species	: Mouse
NOAEL	: 3 mg/kg
LOAEL	: 14 mg/kg
Application Route	: oral (feed)
Exposure time	: 18 Months
Target Organs	: Nervous system, Heart

**Aspiration toxicity**

Not classified based on available information.

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

General Information : No human information is available.

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**Section 12: Ecological information****Ecotoxicity****Components:****Permethrin (ISO):**

Toxicity to fish : LC<sub>50</sub> (Lepomis macrochirus (Bluegill sunfish)): 0.00079 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other : EC<sub>50</sub> (Daphnia magna (Water flea)): 0.0001 mg/l  
aquatic invertebrates Exposure time: 48 h

Toxicity to algae/aquatic : ErC<sub>50</sub> (Pseudokirchneriella subcapitata (green algae)): > 1.13  
plants mg/l

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Exposure time: 72 h

EC10 (Pseudokirchneriella subcapitata (green algae)): 0.0023 mg/l

Exposure time: 72 h

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

Toxicity to fish (Chronic toxicity) : NOEC (Danio rerio (zebra fish)): 0.00041 mg/l  
Exposure time: 35 d  
Method: OECD Test Guideline 210Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.0047 µg/l  
Exposure time: 21 d  
Method: OECD Test Guideline 211

M-Factor (Chronic aquatic toxicity) : 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 38412Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 23,300 mg/l  
Exposure time: 48 hToxicity to algae/aquatic plants : ErC50 (Skeletonema costatum (marine diatom)): 6,745 mg/l  
Exposure time: 72 h  
Method: ISO 10253Toxicity to microorganisms : IC50: > 1,000 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209**Indoxacarb (ISO):**Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.65 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.9 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.6 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic : EC50 (Pseudokirchneriella subcapitata (green algae)): &gt; 0.6

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plants mg/l  
Exposure time: 72 h

NOEC (*Pseudokirchneriella subcapitata* (green algae)): 0.46 mg/l  
Exposure time: 72 h

M-Factor (Acute aquatic toxicity) : 1

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (*Daphnia magna* (Water flea)): 0.09 mg/l  
Exposure time: 21 d

M-Factor (Chronic aquatic toxicity) : 1

**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

**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

**Indoxacarb (ISO):**

Partition coefficient: n-octanol/water : log Pow: 4.65

**Mobility in soil****Components:****Indoxacarb (ISO):**

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Distribution among environmental compartments : log K<sub>oc</sub>: 3.9

**Other adverse effects**

No data available

**Section 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 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 3092
Proper shipping name	: 1-METHOXY-2-PROPANOL SOLUTION
Class	: 3
Packing group	: III
Labels	: 3
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 aircraft)	: 366
Packing instruction (passenger aircraft)	: 355

**IMDG-Code**

UN number	: UN 3092
Proper shipping name	: 1-METHOXY-2-PROPANOL SOLUTION (Permethrin (ISO), Indoxacarb (ISO))
Class	: 3
Packing group	: III
Labels	: 3
EmS Code	: F-E, S-D
Marine pollutant	: yes

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**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied.

**National Regulations****NZS 5433**

UN number	:	UN 3092
Proper shipping name	:	1-METHOXY-2-PROPANOL SOLUTION
Class	:	3
Packing group	:	III
Labels	:	3
Hazchem Code	:	2Y
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.

**Section 15: Regulatory information****Safety, health and environmental regulations/legislation specific for the substance or mixture****HSNO Approval Number**

HSR100759 Veterinary Medicines Non dispersive Open System Application Group Standard

Tolerable Exposure Limits (TEL)

Not applicable

Environmental Exposure Limits (EEL)

Chemical name	Environmental compartment	Reference concentration
permethrin	Water	0.0001 mg/l

**HSW Controls**

Certified handler certificate not required.

Tracking hazardous substance not required.

Refer to the Health and Safety at Work (Hazardous Substances) Regulations 2017, for further information.

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

AICS : not determined

DSL : not determined

IECSC : not determined

**Section 16: Other information**

Revision Date : 14.04.2025

**Further information**

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Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Date format : dd.mm.yyyy

**Full text of other abbreviations**

ACGIH : USA. ACGIH Threshold Limit Values (TLV)  
NZ OEL : New Zealand. Workplace Exposure Standards for Atmospheric Contaminants

ACGIH / TWA : 8-hour, time-weighted average  
ACGIH / STEL : Short-term exposure limit  
NZ OEL / WES-TWA : Workplace Exposure Standard - Time Weighted average  
NZ OEL / WES-STEEL : Workplace 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; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text.

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Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

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