

Indoxacarb / Permethrin Formulation

Version 3.0 Revision Date: 09/16/2019 SDS Number: 27875-00013 Date of last issue: 06/05/2018
Date of first issue: 11/04/2014

SECTION 1. IDENTIFICATION

Product name : Indoxacarb / Permethrin Formulation
Other means of identification : No data available

Manufacturer or supplier's details

Company name of supplier : Merck & Co., Inc
Address : 2000 Galloping Hill Road
Kenilworth - New Jersey - U.S.A. 07033
Telephone : 908-740-4000
Telefax : 908-735-1496
Emergency telephone : 1-908-423-6000
E-mail address : EHSDATASTEWARD@merck.com




Recommended use of the chemical and restrictions on use

Recommended use : Veterinary product

SECTION 2. HAZARDS IDENTIFICATION**GHS classification in accordance with the Hazardous Products Regulations**

Flammable liquids : Category 3
Acute toxicity (Oral) : Category 4
Acute toxicity (Inhalation) : Category 4
Skin sensitization : Category 1
Specific target organ toxicity - single exposure : Category 3
Specific target organ toxicity - repeated exposure : Category 1 (Blood, Nervous system, Heart)

GHS label elements

Hazard pictograms :   

Signal Word : Danger

Hazard Statements : H226 Flammable liquid and vapor.
H302 + H332 Harmful if swallowed or if inhaled.
H317 May cause an allergic skin reaction.
H336 May cause drowsiness or dizziness.
H372 Causes damage to organs (Blood, Nervous system, Heart) through prolonged or repeated exposure.

Precautionary Statements : **Prevention:**
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

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P260 Do not breathe mist or vapors.
 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.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
 P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
 P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
 P314 Get medical advice/ attention if you feel unwell.
 P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
 P362 + P364 Take off contaminated clothing and wash it before reuse.

Storage:

P405 Store locked up.

Disposal:

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

Other hazards

Vapors 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 - < 60
1-Methoxy-2-propanol	107-98-2	>= 30 - < 60
Indoxacarb (ISO)	173584-44-6	>= 10 - < 30

Actual concentration or concentration range is withheld as a trade secret

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 | : | Harmful if swallowed or if inhaled.
May cause an allergic skin reaction.
May cause drowsiness or dizziness.
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 ₂)
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.
Vapors 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 so.
Evacuate area. |
| Special protective equipment for fire-fighters | : | In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment. |
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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 and personal protective equipment recommendations. |
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- Environmental precautions : Discharge into the environment must be avoided. 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/vapors/mists with a water spray jet. For large spills, provide diking or other appropriate containment to keep material from spreading. If diked 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. If advised by assessment of the local exposure potential, use only in an area equipped with explosion-proof exhaust ventilation.
- Advice on safe handling : Do not get on skin or clothing. Do not breathe vapors or spray mist. Do not swallow. Avoid contact with eyes. 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 and sources of ignition. Take precautionary measures against static discharges. Take care to prevent spills, waste and minimize release to the environment.
- Conditions for safe storage : Keep in properly labeled 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:

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Strong oxidizing agents
 Organic peroxides
 Flammable solids
 Pyrophoric liquids
 Pyrophoric solids
 Self-heating substances and mixtures
 Substances and mixtures which in contact with water emit flammable gases
 Explosives
 Gases

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients 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 ³ (OEB 3)	Internal
		Wipe limit	800 µg/100 cm ²	Internal
1-Methoxy-2-propanol	107-98-2	STEL	150 ppm 553 mg/m ³	CA AB OEL
		TWA	100 ppm 369 mg/m ³	CA AB OEL
		TWA	50 ppm	CA BC OEL
		STEL	100 ppm	CA BC OEL
		TWAEV	100 ppm 369 mg/m ³	CA QC OEL
		STEV	150 ppm 553 mg/m ³	CA QC OEL
		TWA	50 ppm	ACGIH
		STEL	100 ppm	ACGIH
Indoxacarb (ISO)	173584-44-6	TWA	20 µg/m ³	Internal
		Further information: Skin sensitization		
		Wipe limit	100 µg/100 cm ²	Internal

Engineering measures : Minimize workplace exposure concentrations.
 If sufficient ventilation is unavailable, use with local exhaust ventilation.
 If advised by assessment of the local exposure potential, use only in an area equipped with explosion-proof exhaust ventilation.

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 vapor type
Hand protection

Material : Chemical-resistant gloves

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Remarks	: Choose gloves to protect hands against chemicals depending on the concentration 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).
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. Wash contaminated clothing before re-use.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: liquid
Color	: Clear white to yellow.
Odor	: ether-like
Odor 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	: 33.5 °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	: No data available

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flammability limit

Vapor pressure : No data available

Relative vapor density : No data available

Relative density : 1.096

Solubility(ies)

Water solubility : No data available

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

Autoignition 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 : No data available

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 vapor.
Vapors 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**Information on likely routes of exposure**

Inhalation

Skin contact

Ingestion

Eye contact

Acute toxicity

Harmful if swallowed or if inhaled.

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Acute oral toxicity : Acute toxicity estimate: 572.63 mg/kg
 Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: 3.29 mg/l
 Exposure time: 4 h
 Test atmosphere: dust/mist
 Method: Calculation method

Components:

Permethrin (ISO):

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

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

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

1-Methoxy-2-propanol:

Acute oral toxicity : LD50 (Rat): 4,016 mg/kg

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

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:

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Species : Rabbit
Result : No skin irritation

Indoxacarb (ISO):
Result : No skin irritation

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

Indoxacarb (ISO):
Result : No eye irritation

Respiratory or skin sensitization**Skin sensitization**

May cause an allergic skin reaction.

Respiratory sensitization

Not classified based on available information.

Components:

Permethrin (ISO):
Test Type : Buehler Test
Routes of exposure : Skin contact
Species : Guinea pig
Result : positive

Assessment : Probability or evidence of skin sensitization in humans

1-Methoxy-2-propanol:
Test Type : Maximization Test
Routes of exposure : Skin contact
Species : Guinea pig
Result : negative

Indoxacarb (ISO):
Test Type : Maximization Test
Species : Guinea pig
Result : positive

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Germ cell mutagenicity

Not classified based on available information.

Components:

Permethrin (ISO):

Genotoxicity in vitro	:	Test Type: Bacterial reverse mutation assay (AMES) Result: negative Test Type: In vitro mammalian cell gene mutation test Result: negative Test Type: Chromosome aberration test in vitro Result: negative Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro) Result: negative Test Type: Chromosome aberration test in vitro Result: positive
Genotoxicity in vivo	:	Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Mouse Result: negative Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis) Species: Mouse Result: negative Test Type: Rodent dominant lethal test (germ cell) (in vivo) Species: Mouse Result: negative Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Rat Application Route: Intraperitoneal injection Result: negative Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis) Species: Mouse Application Route: Ingestion Result: positive
Germ cell mutagenicity - Assessment	:	Weight of evidence does not support classification as a germ cell mutagen.

1-Methoxy-2-propanol:

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

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

Test Type: In vitro sister chromatid exchange assay in mammalian cells
 Result: equivocal

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

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

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 (vapor)

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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
 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 fetal 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 (vapor)
 Method: OECD Test Guideline 416
 Result: negative

Effects on fetal development : Test Type: Embryo-fetal development
 Species: Rat
 Application Route: inhalation (vapor)
 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

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Effects on fetal development	: 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 offspring were detected.
Effects on fetal development	: Test Type: Development Species: Rat Developmental Toxicity: NOAEL: 2 mg/kg body weight Result: No teratogenic effects.
Effects on fetal development	: Test Type: Development Species: Rabbit Application Route: Oral Developmental Toxicity: NOAEL: 500 mg/kg body weight Result: No adverse effects.
Effects on fetal development	: Test Type: Development Species: Rat Application Route: Oral Developmental Toxicity: NOAEL: 10 mg/kg body weight
Effects on fetal development	: Test Type: Development Species: Rat Application Route: Oral Developmental Toxicity: LOAEL: 100 mg/kg body weight

STOT-single exposure

May cause drowsiness or dizziness.

Components:

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.

Components:

Indoxacarb (ISO):

Target Organs : Blood, Nervous system, Heart
 Assessment : Causes damage to organs through prolonged or repeated exposure.

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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 (vapor)
 Exposure time : 2 y
 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
 NOAEL : 4.6 mg/m³
 LOAEL : 23 mg/m³
 Application Route : Inhalation
 Exposure time : 4 Weeks
 Target Organs : Blood, Lungs

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

Species : Dog
 NOAEL : 1 mg/kg
 LOAEL : 2 mg/kg
 Application Route : Oral
 Exposure time : 1 y
 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.

SECTION 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

Toxicity to fish (Chronic toxicity) : NOEC (Danio rerio (zebra fish)): 0.00041 mg/l
 Exposure time: 35 d
 Method: OECD Test Guideline 210

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

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

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

Indoxacarb (ISO):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.65 mg/l
 Exposure time: 96 h
 Method: OECD Test Guideline 203

LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.9 mg/l
 Exposure time: 96 h
 Method: OECD Test Guideline 203

Toxicity 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 plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 0.6 mg/l
 Exposure time: 72 h

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

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

Persistence and degradability

Components:

Permethrin (ISO):

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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):

Distribution among environmental compartments : log Koc: 3.9

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.

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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

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

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

Not applicable for product as supplied.

Domestic regulation

TDG

UN number	: UN 3092
Proper shipping name	: 1-METHOXY-2-PROPANOL SOLUTION
Class	: 3
Packing group	: III
Labels	: 3
ERG Code	: 129
Marine pollutant	: yes(Permethrin (ISO), Indoxacarb (ISO))

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

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

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

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
CA AB OEL	:	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
CA BC OEL	:	Canada. British Columbia OEL
CA QC OEL	:	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
CA AB OEL / TWA	:	8-hour Occupational exposure limit
CA AB OEL / STEL	:	15-minute occupational exposure limit
CA BC OEL / TWA	:	8-hour time weighted average
CA BC OEL / STEL	:	short-term exposure limit
CA QC OEL / TWAEV	:	Time-weighted average exposure value
CA QC OEL / STEV	:	Short-term exposure value

AICS - Australian Inventory of Chemical Substances; 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

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- Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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

Revision Date : 09/16/2019

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

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

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