# SAFETY DATA SHEET
according to the Hazardous Products Regulations

# Indoxacarb / Permethrin Formulation

| Version | Revision Date: | SDS Number: | Date of last issue: 04/06/2024 |
|---|---|---|---|
| 7.0 | 07/09/2024 | 27875-00026 | 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 : 126 E. Lincoln Avenue
Rahway, New Jersey U.S.A. 07065
Telephone : 908-740-4000
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
Restrictions on use : Not applicable

## 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.
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 and face protection.

**Response:**

P301 + P312 + P330 IF SWALLOWED: Call a 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 doctor if you feel unwell.
P314 Get medical attention if you feel unwell.
P333 + P313 If skin irritation or rash occurs: Get medical attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.

**Storage:**

P405 Store locked up.

**Disposal:**

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

**Other hazards**

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).
Vapors may form explosive mixture with air.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

**Components**

| Chemical name | Common Name/Synonym | CAS-No. | Concentration (% w/w) |
|---|---|---|---|
| Permethrin (ISO) | m-phenoxybenzyl 3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate | 52645-53-1 | 43.81 |

| | | | |
|---|---|---|---|
| 1-Methoxy-2-propanol | Methoxyisopropanol | 107-98-2 | 42.3 |
| Indoxacarb (ISO) | No data available | 173584-44-6 | 13.69 |

### SECTION 4. FIRST AID MEASURES

| | | |
|---|---|---|
| General advice | : | In the case of accident or if you feel unwell, seek medical advice immediately.<br>When symptoms persist or in all cases of doubt seek medical advice. |
| If inhaled | : | If inhaled, remove to fresh air.<br>If not breathing, give artificial respiration.<br>If breathing is difficult, give oxygen.<br>Get medical attention if symptoms occur. |
| In case of skin contact | : | In case of contact, immediately flush skin with plenty of water.<br>Remove contaminated clothing and shoes.<br>Get medical attention.<br>Wash clothing before reuse.<br>Thoroughly clean shoes before reuse. |
| In case of eye contact | : | Flush eyes with water as a precaution.<br>Get medical attention if irritation develops and persists. |
| If swallowed | : | If swallowed, DO NOT induce vomiting.<br>Get medical attention.<br>Rinse mouth thoroughly with water.<br>Never give anything by mouth to an unconscious person. |
| Most important symptoms and effects, both acute and delayed | : | Harmful if swallowed or if inhaled.<br>May cause an allergic skin reaction.<br>May cause drowsiness or dizziness.<br>Causes damage to organs through prolonged or repeated exposure.<br>This product contains a pyrethroid.<br>Pyrethroid poisoning should not be confused with carbamate or organophosphate poisoning. |
| Protection of first-aiders | : | First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8). |
| Notes to physician | : | Treat symptomatically and supportively. |

### SECTION 5. FIRE-FIGHTING MEASURES

| | | |
|---|---|---|
| Suitable extinguishing media | : | Water spray<br>Alcohol-resistant foam<br>Carbon dioxide (CO2)<br>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.<br>Flash back possible over considerable distance.<br>Vapors may form explosive mixtures with air.<br>Exposure to combustion products may be a hazard to health. |

| | | |
|---|---|---|
| Hazardous combustion products | : | Carbon oxides<br>Chlorine compounds |
| Specific extinguishing methods | : | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.<br>Use water spray to cool unopened containers.<br>Remove undamaged containers from fire area if it is safe to do so.<br>Evacuate area. |
| Special protective equipment for fire-fighters | : | In the event of fire, wear self-contained breathing apparatus.<br>Use personal protective equipment. |

### SECTION 6. ACCIDENTAL RELEASE MEASURES

| | | |
|---|---|---|
| Personal precautions, protective equipment and emergency procedures | : | Remove all sources of ignition.<br>Use personal protective equipment.<br>Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8). |
| Environmental precautions | : | Avoid release to the environment.<br>Prevent further leakage or spillage if safe to do so.<br>Prevent spreading over a wide area (e.g., by containment or oil barriers).<br>Retain and dispose of contaminated wash water.<br>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.<br>Soak up with inert absorbent material.<br>Suppress (knock down) gases/vapors/mists with a water spray jet.<br>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.<br>Clean up remaining materials from spill with suitable absorbent.<br>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.<br>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.<br>Use explosion-proof electrical, ventilating and lighting equipment. |

| | | |
|---|---|---|
| Advice on safe handling | : | Do not get on skin or clothing.<br>Do not breathe mist or vapors.<br>Do not swallow.<br>Avoid contact with eyes.<br>Wash skin thoroughly after handling.<br>Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment<br>Non-sparking tools should be used.<br>Keep container tightly closed.<br>Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.<br>Take precautionary measures against static discharges.<br>Do not eat, drink or smoke when using this product.<br>Take care to prevent spills, waste and minimize release to the environment. |
| Conditions for safe storage | : | Keep in properly labeled containers.<br>Store locked up.<br>Keep tightly closed.<br>Keep in a cool, well-ventilated place.<br>Store in accordance with the particular national regulations.<br>Keep away from heat and sources of ignition. |
| Materials to avoid | : | Do not store with the following product types:<br>Strong oxidizing agents<br>Self-reactive substances and mixtures<br>Organic peroxides<br>Flammable solids<br>Pyrophoric liquids<br>Pyrophoric solids<br>Self-heating substances and mixtures<br>Substances and mixtures which in contact with water emit flammable gases<br>Explosives<br>Gases<br>Very acutely toxic substances and mixtures |

## 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/m3 (OEB 3) | Internal |
| | | Wipe limit | 800 µg/100 cm² | Internal |
| 1-Methoxy-2-propanol | 107-98-2 | TWA | 100 ppm<br>369 mg/m³ | CA AB OEL |
| | | STEL | 150 ppm<br>553 mg/m³ | CA AB OEL |
| | | TWA | 50 ppm | CA BC OEL |
| | | STEL | 100 ppm | CA BC OEL |
| | | TWAEV | 100 ppm<br>369 mg/m³ | CA QC OEL |

| | | | | |
|---|---|---|---|---|
| | | STEV | 150 ppm<br>553 mg/m³ | CA QC OEL |
| | | TWA | 50 ppm | ACGIH |
| | | 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 vapor type

Hand protection

Material : Chemical-resistant gloves

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.
Contaminated work clothing should not be allowed out of the workplace.
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) | : | No data available |
| Upper explosion limit / Upper flammability limit | : | No data available |
| Lower explosion limit / Lower flammability limit | : | No data available |
| Vapor pressure | : | No data available |
| Relative vapor 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 |
| 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 characteristics | | |
| 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 vapor.<br>Vapors may form explosive mixture with air.<br>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.

**Product:**

| | | |
|---|---|---|
| Acute oral toxicity | : | Acute toxicity estimate: 572.63 mg/kg<br>Method: Calculation method |
| Acute inhalation toxicity | : | Acute toxicity estimate: 11 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapor<br>Method: Calculation method |

**Components:**

**Permethrin (ISO):**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): 480 - 554 mg/kg |
| Acute inhalation toxicity | : | LC50 (Rat): 2.3 mg/l<br>Exposure time: 4 h<br>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<br>Exposure time: 6 h<br>Test atmosphere: vapor |
| Acute dermal toxicity | : | LD50 (Rat): > 2,000 mg/kg<br>Assessment: The substance or mixture has no acute dermal toxicity |

**Indoxacarb (ISO):**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat, female): 179 mg/kg<br>Symptoms: Loss of reflexes, Breathing difficulties, Tremors<br><br>LD50 (Rat, male): 843 mg/kg |
| Acute inhalation toxicity | : | LC50 (Rat, female): 4.2 mg/l<br>Exposure time: 4 h<br>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**

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 |

**Germ cell mutagenicity**

Not classified based on available information.

**Components:**

**Permethrin (ISO):**

| | | |
|---|---|---|
| Genotoxicity in vitro | : | Test Type: Bacterial reverse mutation assay (AMES)<br>Result: negative<br><br>Test Type: In vitro mammalian cell gene mutation test<br>Result: negative<br><br>Test Type: Chromosome aberration test in vitro<br>Result: negative<br><br>Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)<br>Result: negative |

| | | |
|---|---|---|
| | | Test Type: Chromosome aberration test in vitro<br>Result: positive |
| Genotoxicity in vivo | : | Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)<br>Species: Mouse<br>Result: negative<br><br>Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)<br>Species: Mouse<br>Result: negative<br><br>Test Type: Rodent dominant lethal test (germ cell) (in vivo)<br>Species: Mouse<br>Result: negative<br><br>Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)<br>Species: Rat<br>Application Route: Intraperitoneal injection<br>Result: negative<br><br>Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)<br>Species: Mouse<br>Application Route: Ingestion<br>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)<br>Result: negative<br><br>Test Type: Chromosome aberration test in vitro<br>Result: negative<br><br>Test Type: In vitro mammalian cell gene mutation test<br>Result: negative<br><br>Test Type: In vitro sister chromatid exchange assay in mammalian cells<br>Result: equivocal<br><br>Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)<br>Method: OECD Test Guideline 482<br>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)<br>Result: negative<br><br>Test Type: Chromosomal aberration<br>Test system: mammalian cells<br>Result: negative<br><br>Test Type: In vitro mammalian cell gene mutation test<br>Test system: Chinese hamster ovary cells<br>Result: negative |
| Genotoxicity in vivo | : | Test Type: Micronucleus test<br>Species: Mouse<br>Cell type: Bone marrow<br>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) |
| 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<br>Species: Rat<br>Application Route: Ingestion<br>Result: negative |
| Effects on fetal development | : | Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test<br>Species: Rat<br>Application Route: Ingestion<br>Result: negative |

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

| | | |
|---|---|---|
| Effects on fertility | : | Test Type: Two-generation reproduction toxicity study<br>Species: Rat<br>Application Route: inhalation (vapor)<br>Method: OECD Test Guideline 416<br>Result: negative |
| Effects on fetal development | : | Test Type: Embryo-fetal development<br>Species: Rat<br>Application Route: inhalation (vapor)<br>Result: negative |

**Indoxacarb (ISO):**

| | | |
|---|---|---|
| Effects on fertility | : | Test Type: Two-generation study<br>Species: Rat<br>Application Route: Oral<br>General Toxicity F1: NOAEL: 1.3 mg/kg body weight<br>Result: negative<br><br>Test Type: Two-generation study<br>Species: Rat<br>Application Route: Oral<br>General Toxicity Parent: NOAEL: 1.3 mg/kg body weight<br>General Toxicity F1: NOAEL: > 6.7 mg/kg body weight<br>Result: Embryotoxic effects and adverse effects on the offspring were detected. |
| Effects on fetal development | : | Test Type: Development<br>Species: Rat<br>Developmental Toxicity: NOAEL: 2 mg/kg body weight<br>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.

**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. |

**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 |

| | | |
|---|---|---|
| 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<br>Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 0.0001 mg/l<br>Exposure time: 48 h |
| Toxicity to algae/aquatic plants | : | ErC50 (Pseudokirchneriella subcapitata (green algae)): > 1.13 mg/l<br>Exposure time: 72 h<br><br>EC10 (Pseudokirchneriella subcapitata (green algae)): 0.0023 mg/l<br>Exposure time: 72 h |
| Toxicity to fish (Chronic toxicity) | : | NOEC (Danio rerio (zebra fish)): 0.00041 mg/l<br>Exposure time: 35 d<br>Method: OECD Test Guideline 210 |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC (Daphnia magna (Water flea)): 0.0047 µg/l<br>Exposure time: 21 d<br>Method: OECD Test Guideline 211 |
| Toxicity to microorganisms | : | EC50: > 1,000 mg/l<br>Exposure time: 3 h |

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

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Leuciscus idus (Golden orfe)): 6,812 mg/l<br>Exposure time: 96 h<br>Method: DIN 38412 |
| Toxicity to daphnia and other | : | EC50 (Daphnia magna (Water flea)): 23,300 mg/l |

| | | |
|---|---|---|
| aquatic invertebrates | | Exposure time: 48 h |
| Toxicity to algae/aquatic plants | : | ErC50 (Skeletonema costatum (marine diatom)): 6,745 mg/l<br>Exposure time: 72 h<br>Method: ISO 10253 |
| Toxicity to microorganisms | : | IC50: > 1,000 mg/l<br>Exposure time: 3 h<br>Method: OECD Test Guideline 209 |

**Indoxacarb (ISO):**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Oncorhynchus mykiss (rainbow trout)): 0.65 mg/l<br>Exposure time: 96 h<br>Method: OECD Test Guideline 203<br><br>LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.9 mg/l<br>Exposure time: 96 h<br>Method: OECD Test Guideline 203 |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 0.6 mg/l<br>Exposure time: 48 h<br>Method: OECD Test Guideline 202 |
| Toxicity to algae/aquatic plants | : | EC50 (Pseudokirchneriella subcapitata (green algae)): > 0.6 mg/l<br>Exposure time: 72 h<br><br>NOEC (Pseudokirchneriella subcapitata (green algae)): 0.46 mg/l<br>Exposure time: 72 h |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC (Daphnia magna (Water flea)): 0.09 mg/l<br>Exposure time: 21 d |

**Persistence and degradability**

**Components:**

**Permethrin (ISO):**

| | | |
|---|---|---|
| Biodegradability | : | Result: Not readily biodegradable.<br>Method: OECD Test Guideline 301F |

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

| | | |
|---|---|---|
| Biodegradability | : | Result: Readily biodegradable.<br>Biodegradation: 96 %<br>Exposure time: 28 d<br>Method: OECD Test Guideline 301E |

**Bioaccumulative potential**

**Components:**

**Permethrin (ISO):**

| | | |
|---|---|---|
| Bioaccumulation | : | Species: Lepomis macrochirus (Bluegill sunfish)<br>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 | : | Do not dispose of waste into sewer.<br>Dispose of in accordance with local regulations. |
| Contaminated packaging | : | Empty containers should be taken to an approved waste handling site for recycling or disposal.<br>Empty containers retain residue and can be dangerous.<br>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.<br>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 |

**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 |
| 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 |

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

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

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

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Date format : mm/dd/yyyy

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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