SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Indoxacarb / Permethrin Formulation

Manufacturer or supplier’s details
Company name of supplier: MSD
Address: Avenida 16 de Septiembre No. 301, Xaltocan - Xochimilco Mexico 16090
Telephone: 52 55 5728444
Telefax: 908-735-1496
Emergency telephone: 1-908-423-6000
E-mail address: EHSDATASTEWARD@msd.com

Recommended use of the chemical and restrictions on use
Recommended use: Veterinary product

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification
Flammable liquids: Category 3
Acute toxicity (Oral): Category 4
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: 
- Flammable liquid and vapor
- Skin sensitizer
- Poison: acute toxicity

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.
SAFETY DATA SHEET

Indoxacarb / Permethrin Formulation

Version 4.0  Revision Date: 09/16/2019  SDS Number: 27894-00013  Date of last issue: 05.06.2018  Date of first issue: 04.11.2014

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 or doctor/ physician 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 victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician 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

<table>
<thead>
<tr>
<th>Substance / Mixture</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mixture</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permethrin (ISO)</td>
<td>52645-53-1</td>
<td>&gt;= 30 - &lt; 50</td>
</tr>
<tr>
<td>1-Methoxy-2-propanol</td>
<td>107-98-2</td>
<td>&gt;= 30 - &lt; 50</td>
</tr>
<tr>
<td>Indoxacarb (ISO)</td>
<td>173584-44-6</td>
<td>&gt;= 10 - &lt; 20</td>
</tr>
</tbody>
</table>

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. Get medical attention if symptoms occur.

In case of skin contact: In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes.
<table>
<thead>
<tr>
<th>In case of eye contact</th>
<th>Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.</th>
</tr>
</thead>
<tbody>
<tr>
<td>If swallowed</td>
<td>If swallowed, DO NOT induce vomiting. Get medical attention. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person.</td>
</tr>
<tr>
<td><strong>Most important symptoms and effects, both acute and delayed</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Protection of first-aiders</strong></td>
<td>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).</td>
</tr>
<tr>
<td><strong>Notes to physician</strong></td>
<td>Treat symptomatically and supportively.</td>
</tr>
</tbody>
</table>

**SECTION 5. FIRE-FIGHTING MEASURES**

- **Suitable extinguishing media**: Water spray, Alcohol-resistant foam, Carbon dioxide (CO2), Dry chemical
- **Unsuitable extinguishing media**: High volume water jet
- **Specific hazards during fire fighting**: Do not use a solid water stream as it may scatter and spread fire. Flashback 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.

**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.
- **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...
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.

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.

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:
  - 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/PERSOANL PROTECTION

#### Ingredients with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permethrin (ISO)</td>
<td>52645-53-1</td>
<td>TWA</td>
<td>80 µg/m³ (OEB 3)</td>
<td>Internal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wipe limit</td>
<td>800 µg/100 cm²</td>
<td>Internal</td>
</tr>
<tr>
<td>1-Methoxy-2-propanol</td>
<td>107-98-2</td>
<td>VLE-PPT</td>
<td>100 ppm</td>
<td>NOM-010-STPS-2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VLE-CT</td>
<td>150 ppm</td>
<td>NOM-010-STPS-2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>50 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>100 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Indoxacarb (ISO)</td>
<td>173584-44-6</td>
<td>TWA</td>
<td>20 µg/m³</td>
<td>Internal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wipe limit</td>
<td>100 µg/100 cm²</td>
<td>Internal</td>
</tr>
</tbody>
</table>

**Further information:** Skin sensitization

#### 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

**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).

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Clear white to yellow.</td>
</tr>
<tr>
<td>Odor</td>
<td>ether-like</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>33.5 °C</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (liquids)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Upper explosion limit / Upper flammability limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower explosion limit / Lower flammability limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.096</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Water solubility</td>
</tr>
<tr>
<td></td>
<td>No data available</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET

Indoxacarb / Permethrin Formulation

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
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.

Product:
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:
- Species: Rabbit
  - Result: No skin irritation

Indoxacarb (ISO):
- Result: No skin irritation
SAFETY DATA SHEET

Indoxacarb / Permethrin Formulation

Version: 4.0
Revision Date: 09/16/2019
SDS Number: 27894-00013
Date of last issue: 05.06.2018
Date of first issue: 04.11.2014

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)
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

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  
  - negative

- **Species**
  - Mouse  
  - 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
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

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

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Species</th>
<th>Application Route</th>
<th>Developmental Toxicity: NOAEL</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development</td>
<td>Rat</td>
<td>Oral</td>
<td>2 mg/kg body weight</td>
<td>No teratogenic effects.</td>
</tr>
<tr>
<td>Development</td>
<td>Rabbit</td>
<td>Oral</td>
<td>500 mg/kg body weight</td>
<td>No adverse effects.</td>
</tr>
<tr>
<td>Development</td>
<td>Rat</td>
<td>Oral</td>
<td>10 mg/kg body weight</td>
<td></td>
</tr>
<tr>
<td>Development</td>
<td>Rat</td>
<td>Oral</td>
<td>LOAEL: 100 mg/kg body weight</td>
<td></td>
</tr>
</tbody>
</table>

### STOT-single exposure

May cause drowsiness or dizziness.

**Components:**

1-Methoxy-2-propanol:

<table>
<thead>
<tr>
<th>Assessment</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>May cause drowsiness or dizziness.</td>
</tr>
</tbody>
</table>

### STOT-repeated exposure

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

**Components:**

**Indoxacarb (ISO):**

<table>
<thead>
<tr>
<th>Target Organs</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Blood, Nervous system, Heart</td>
</tr>
<tr>
<td></td>
<td>Causes damage to organs through prolonged or repeated exposure.</td>
</tr>
</tbody>
</table>

### Repeated dose toxicity

**Components:**

**Permethrin (ISO):**

<table>
<thead>
<tr>
<th>Species</th>
<th>Application Route</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rat</td>
<td>Inhalation</td>
<td>90 Days</td>
</tr>
<tr>
<td>NOAEL: 0.2201 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Species</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>----------------------------</td>
<td></td>
</tr>
<tr>
<td>NOAEL</td>
<td>175 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Application Route</td>
<td>Ingestion</td>
<td></td>
</tr>
<tr>
<td>Exposure time</td>
<td>90 Days</td>
<td></td>
</tr>
</tbody>
</table>

1-Methoxy-2-propanol:

<table>
<thead>
<tr>
<th>Species</th>
<th>Rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>919 mg/kg</td>
</tr>
<tr>
<td>Application Route</td>
<td>Ingestion</td>
</tr>
<tr>
<td>Exposure time</td>
<td>35 Days</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Species</th>
<th>Rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>1.1 mg/l</td>
</tr>
<tr>
<td>Application Route</td>
<td>inhalation (vapor)</td>
</tr>
<tr>
<td>Exposure time</td>
<td>2 y</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 453</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>1,838 mg/kg</td>
</tr>
<tr>
<td>Application Route</td>
<td>Skin contact</td>
</tr>
<tr>
<td>Exposure time</td>
<td>90 Days</td>
</tr>
</tbody>
</table>

Indoxacarb (ISO):

<table>
<thead>
<tr>
<th>Species</th>
<th>Rat, male and female</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>1.7 mg/kg</td>
</tr>
<tr>
<td>LOAEL</td>
<td>4.1 mg/kg</td>
</tr>
<tr>
<td>Application Route</td>
<td>Oral</td>
</tr>
<tr>
<td>Exposure time</td>
<td>90 d</td>
</tr>
<tr>
<td>Target Organs</td>
<td>Blood, Central nervous system</td>
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<table>
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<th>Species</th>
<th>Rat, male and female</th>
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<tbody>
<tr>
<td>NOAEL</td>
<td>50 mg/kg</td>
</tr>
<tr>
<td>LOAEL</td>
<td>500 mg/kg</td>
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<td>Application Route</td>
<td>Dermal</td>
</tr>
<tr>
<td>Exposure time</td>
<td>28 d</td>
</tr>
<tr>
<td>Target Organs</td>
<td>Blood</td>
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<tr>
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<td>4.6 mg/m³</td>
</tr>
<tr>
<td>LOAEL</td>
<td>23 mg/m³</td>
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<tr>
<td>Application Route</td>
<td>Inhalation</td>
</tr>
<tr>
<td>Exposure time</td>
<td>4 Weeks</td>
</tr>
<tr>
<td>Target Organs</td>
<td>Blood, Lungs</td>
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<table>
<thead>
<tr>
<th>Species</th>
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<tbody>
<tr>
<td>NOAEL</td>
<td>1 mg/kg</td>
</tr>
<tr>
<td>LOAEL</td>
<td>2 mg/kg</td>
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<tr>
<td>Application Route</td>
<td>Oral</td>
</tr>
<tr>
<td>Exposure time</td>
<td>1 y</td>
</tr>
<tr>
<td>Target Organs</td>
<td>Blood</td>
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<tbody>
<tr>
<td>NOAEL</td>
<td>1 mg/kg</td>
</tr>
<tr>
<td>LOAEL</td>
<td>2 mg/kg</td>
</tr>
</tbody>
</table>
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

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):**

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.

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
SAFETY DATA SHEET

Indoxacarb / Permethrin Formulation

Version 4.0  Revision Date: 09/16/2019  SDS Number: 27894-00013  Date of last issue: 05.06.2018

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-PROANOL 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

NOM-002-SCT
UN number: UN 3092
Proper shipping name: 1-METHOXY-2-PROANOL, SOLUTION
Class: 3
Packing group: III
Labels: 3

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
Federal Law for the control of chemical precursors, essential chemical products and machinery for producing capsules, tablets and pills: Not applicable

The ingredients of this product are reported in the following inventories:
AICS: not determined
DSL: not determined
IECSC: not determined
SAFETY DATA SHEET

Indoxacarb / Permethrin Formulation

Version 4.0  Revision Date: 09/16/2019  SDS Number: 27894-00013  Date of last issue: 05.06.2018  Date of first issue: 04.11.2014

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
NOM-010-STPS-2014 : Mexico. Norm NOM-010-STPS-2014 on Chemicals Polluting the Work Environment - Identification, Assessment and Control - Appendix 1 Occupational Exposure Limits
ACGIH / TWA : 8-hour, time-weighted average
ACGIH / STEL : Short-term exposure limit
NOM-010-STPS-2014 / VLE-PPT : Time weighted average limit value
NOM-010-STPS-2014 / VLE-CT : Short term exposure limit 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 - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System


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 is considered as correct, but not exhaustive, and will be used only as a guide, which is based in the current knowledge of the substance or mixture, and is applicable to proper safety precautions for the product.

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