SAFETY DATA SHEET

Indoxacarb / Permethrin Formulation

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier
   Trade name : Indoxacarb / Permethrin Formulation

1.2 Relevant identified uses of the substance or mixture and uses advised against
   Use of the Substance/Mixture : Veterinary product

1.3 Details of the supplier of the safety data sheet
   Company : MSD
             20 Spartan Road
             1619 Spartan, South Africa
   Telephone : +27119239300
   Telefax : 908-735-1496
   E-mail address of person responsible for the SDS : EHSDATASTEWARD@msd.com

1.4 Emergency telephone number
   1-908-423-6000

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)
   Flammable liquids, Category 3
   Acute toxicity, Category 4
   Acute toxicity, Category 4
   Skin sensitisation, Category 1
   Specific target organ toxicity - single exposure, Category 3
   Specific target organ toxicity - repeated exposure, Category 1
   Short-term (acute) aquatic hazard, Category 1
   Long-term (chronic) aquatic hazard, Category 1

   H226: Flammable liquid and vapour.
   H302: Harmful if swallowed.
   H332: Harmful if inhaled.
   H317: May cause an allergic skin reaction.
   H336: May cause drowsiness or dizziness.
   H372: Causes damage to organs through prolonged or repeated exposure.
   H400: Very toxic to aquatic life.
   H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)
   Hazard pictograms :
   Signal word : Danger
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Indoxacarb / Permethrin Formulation

Version 2.0  Revision Date: 09/16/2019  SDS Number: 27904-00013  Date of last issue: 05.06.2018

Date of first issue: 04.11.2014

Hazard statements:
- H226 Flammable liquid and vapour.
- 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 through prolonged or repeated exposure.
- H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements:

Prevention:
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
- 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.
- P391 Collect spillage.

Hazardous components which must be listed on the label:
- Permethrin (ISO)
- 1-Methoxy-2-propanol
- Indoxacarb (ISO)

2.3 Other hazards

Vapours may form explosive mixture with air.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Classification</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permethrin (ISO)</td>
<td>52645-53-1</td>
<td>258-067-9</td>
<td>613-058-00-2</td>
<td>Acute Tox.4; H302 Acute Tox.4; H332 Skin Sens.1; H317 Aquatic Acute1; H400 Aquatic Chronic1; H410 M-Factor (Acute aquatic toxicity): 10.000 M-Factor (Chronic aquatic toxicity):</td>
<td>&gt;= 30 - &lt; 50</td>
</tr>
</tbody>
</table>
## Section 4: First aid measures

### 4.1 Description of 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.

- **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).

- **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. 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.
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4.2 Most important symptoms and effects, both acute and delayed

Risks

- 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.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment

- Treat symptomatically and supportively.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

- Water spray
- Alcohol-resistant foam
- Carbon dioxide (CO2)
- Dry chemical

Unsuitable extinguishing media

- High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting

- Do not use a solid water stream as it may scatter and spread fire.
- Flash back possible over considerable distance.
- Vapours may form explosive mixtures with air.
- Exposure to combustion products may be a hazard to health.

Hazardous combustion products

- Carbon oxides
- Chlorine compounds

5.3 Advice for firefighters

Special protective equipment for firefighters

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

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.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions

- Remove all sources of ignition.
- Use personal protective equipment.
- Follow safe handling advice and personal protective equipment recommendations.
6.2 Environmental precautions

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.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up: Non-sparking tools should be used. Soak up with inert absorbent material. Suppress (knock down) gases/vapours/mists with a water spray jet. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbent. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

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 vapours 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.

### 7.2 Conditions for safe storage, including any incompatibilities

**Requirements for storage areas and containers:**
Keep in properly labelled containers. Store locked up. Keep tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Keep away from heat and sources of ignition.

**Advice on common storage:**
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

### 7.3 Specific end use(s)

**Specific use(s):**
No data available

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

**Occupational Exposure Limits**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters</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>TWA OEL-RL</td>
<td>100 ppm</td>
<td>ZA OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>360 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Further information</td>
<td></td>
<td>Absorption through the skin, Recommended Limit</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL OEL-RL</td>
<td>300 ppm</td>
<td>ZA OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1.080 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Further information</td>
<td></td>
<td>Absorption through the skin, Recommended Limit</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>150 ppm</td>
<td>2000/39/EC</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>568 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>100 ppm</td>
<td>2000/39/EC</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>375 mg/m³</td>
<td></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>Further information</td>
<td></td>
<td>Skin sensitisation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Wipe limit</td>
<td>100 µg/100 cm²</td>
</tr>
</tbody>
</table>

**Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:**
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<table>
<thead>
<tr>
<th>Substance name</th>
<th>End Use</th>
<th>Exposure routes</th>
<th>Potential health effects</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Methoxy-2-propanol</td>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>369 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Inhalation</td>
<td>Acute systemic effects</td>
<td>553.5 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Inhalation</td>
<td>Acute local effects</td>
<td>553.5 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>183 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>43.9 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>78 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Ingestion</td>
<td>Long-term systemic effects</td>
<td>33 mg/kg bw/day</td>
</tr>
</tbody>
</table>

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

<table>
<thead>
<tr>
<th>Substance name</th>
<th>Environmental Compartment</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Methoxy-2-propanol</td>
<td>Fresh water</td>
<td>10 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>1 mg/l</td>
</tr>
<tr>
<td></td>
<td>Freshwater - intermittent</td>
<td>100 mg/l</td>
</tr>
<tr>
<td></td>
<td>Sewage treatment plant</td>
<td>100 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>52.3 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>5.2 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>4.59 mg/kg dry weight (d.w.)</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

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

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

Hand protection

Material: Chemical-resistant gloves

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

Skin and body protection: Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure poten-
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).

Respiratory protection: If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.
Filter type: Combined particulates and organic vapour type (A-P)

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance: liquid
Colour: Clear white to yellow.
Odour: ether-like
Odour 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
Upper explosion limit / Upper flammability limit: No data available
Lower explosion limit / Lower flammability limit: No data available
Vapour pressure: No data available
Relative vapour density: No data available

Relative density: 1.096

Solubility(ies)
Water solubility: No data available
Partition coefficient: n-octanol/water: No data available
Auto-ignition temperature: No data available
Decomposition temperature: No data available

Viscosity
Viscosity, kinematic: No data available
Explosive properties: Not explosive
Oxidizing properties: The substance or mixture is not classified as oxidizing.

9.2 Other information
- Flammability (liquids): Not applicable
- Molecular weight: No data available
- Particle size: No data available

SECTION 10: Stability and reactivity

10.1 Reactivity
Not classified as a reactivity hazard.

10.2 Chemical stability
Stable under normal conditions.

10.3 Possibility of hazardous reactions
Hazardous reactions: Flammable liquid and vapour. Vapours may form explosive mixture with air. Can react with strong oxidizing agents.

10.4 Conditions to avoid
Conditions to avoid: Heat, flames and sparks.

10.5 Incompatible materials
Materials to avoid: Oxidizing agents

10.6 Hazardous decomposition products
No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
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: 609.38 mg/kg
  Method: Calculation method
- Acute inhalation toxicity: Acute toxicity estimate: 4.48 mg/l
  Exposure time: 4 h
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

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

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: vapour
- Acute dermal toxicity: LD50 (Rat): > 2.000 mg/kg
  Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation
Not classified based on available information.

Components:

Permethrin (ISO):
- Species: Rabbit
- Result: No skin irritation

Indoxacarb (ISO):
- Result: No skin irritation

1-Methoxy-2-propanol:
- Species: Rabbit
Result : No skin irritation

**Serious eye damage/eye irritation**
Not classified based on available information.

**Components:**

**Permethrin (ISO):**
- **Species:** Rabbit
- **Result:** No eye irritation

**Indoxacarb (ISO):**
- **Result:** No eye irritation

**1-Methoxy-2-propanol:**
- **Species:** Rabbit
- **Result:** No eye irritation

**Respiratory or skin sensitisation**

**Skin sensitisation**
May cause an allergic skin reaction.

**Respiratory sensitisation**
Not classified based on available information.

**Components:**

**Permethrin (ISO):**
- **Test Type:** Buehler Test
- **Exposure routes:** Skin contact
- **Species:** Guinea pig
- **Result:** positive
- **Assessment:** Probability or evidence of skin sensitisation in humans

**Indoxacarb (ISO):**
- **Test Type:** Maximisation Test
- **Species:** Guinea pig
- **Result:** positive

**1-Methoxy-2-propanol:**
- **Test Type:** Maximisation Test
- **Exposure routes:** Skin contact
- **Species:** Guinea pig
- **Result:** negative

**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.

**Indoxacarb (ISO):**

**Genotoxicity in vitro**
- Test Type: Bacterial reverse mutation assay (AMES)
  Result: negative
- Test Type: Chromosomal aberration
  Test system: mammalian cells
Genotoxicity in vivo

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

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

Carcinogenicity

Not classified based on available information.

Components:

**Permethrin (ISO):**

- Species: Rat
  - Result: negative

- Species: Mouse
  - Result: negative

**Indoxacarb (ISO):**

- Species: Rat, male and female
- Application Route: oral (feed)
- Exposure time: 2 Years
- Frequency of Treatment: daily
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Result: negative

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

1-Methoxy-2-propanol:
Species: Rat
Application Route: inhalation (vapour)
Exposure time: 2 Years
Method: OECD Test Guideline 453
Result: negative

Reproductive toxicity
Not classified based on available information.

Components:

Permethrin (ISO):
Effects on fertility: Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Result: negative

Effects on foetal development: Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Result: negative

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

Test Type: Development
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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

1-Methoxy-2-propanol:

Effects on fertility:
Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: inhalation (vapour)
Method: OECD Test Guideline 416
Result: negative

Effects on foetal development:
Test Type: Embryo-foetal development
Species: Rat
Application Route: inhalation (vapour)
Result: negative

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 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 (vapour)
Exposure time: 2 yr
Method: OECD Test Guideline 453

Species: Rabbit
NOAEL: 1.838 mg/kg
Application Route: Skin contact
Exposure time: 90 Days

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

12.1 Toxicity

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

M-Factor (Acute aquatic toxicity): 10.000

Toxicity to microorganisms: EC50: > 1.000 mg/l
Exposure time: 3 h

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

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

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
- M-Factor (Acute aquatic toxicity): 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
SAFETY DATA SHEET

Indoxacarb / Permethrin Formulation

Version 2.0  Revision Date: 09/16/2019  SDS Number: 27904-00013  Date of last issue: 05.06.2018

12.2 Persistence and degradability

Components:

Permethrin (ISO):
- Biodegradability: Result: Not readily biodegradable. Method: OECD Test Guideline 301F

1-Methoxy-2-propanol:

12.3 Bioaccumulative potential

Components:

Permethrin (ISO):
- Bioaccumulation: Species: Lepomis macrochirus (Bluegill sunfish) Bioconcentration factor (BCF): 570
- Partition coefficient: n-octanol/water: log Pow: 4.67

Indoxacarb (ISO):
- Partition coefficient: n-octanol/water: log Pow: 4.65

1-Methoxy-2-propanol:
- Partition coefficient: n-octanol/water: log Pow: < 1

12.4 Mobility in soil

Components:

Indoxacarb (ISO):
- Distribution among environmental compartments: log Koc: 3.9

12.5 Results of PBT and vPvB assessment

Not relevant

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product:
- Dispose of in accordance with local regulations. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.
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

#### 14.1 UN number

| ADN | : | UN 3092 |
| ADR | : | UN 3092 |
| RID | : | UN 3092 |
| IMDG | : | UN 3092 |
| IATA | : | UN 3092 |

#### 14.2 UN proper shipping name

| ADN | : | 1-METHOXY-2-PROPanOL, SOLUTION |
| ADR | : | 1-METHOXY-2-PROPanOL, SOLUTION |
| RID | : | 1-METHOXY-2-PROPanOL, SOLUTION |
| IMDG | : | 1-METHOXY-2-PROPanOL, SOLUTION (Permethrin (ISO), Indoxacarb (ISO)) |
| IATA | : | 1-Methoxy-2-propanol, solution |

#### 14.3 Transport hazard class(es)

| ADN | : | 3 |
| ADR | : | 3 |
| RID | : | 3 |
| IMDG | : | 3 |
| IATA | : | 3 |

#### 14.4 Packing group

| ADN | Packing group: | III |
|     | Classification Code: | F1 |
|     | Hazard Identification Number: | 30 |
|     | Labels: | 3 |

| ADR | Packing group: | III |
|     | Classification Code: | F1 |
|     | Hazard Identification Number: | 30 |
|     | Labels: | 3 |
|     | Tunnel restriction code: | (D/E) |

| RID | Packing group: | III |
SAFETY DATA SHEET

Indoxacarb / Permethrin Formulation

Classification Code: F1
Hazard Identification Number: 30
Labels: 3

IMDG
Packing group: III
Labels: 3
EmS Code: F-E, S-D

IATA (Cargo)
Packing instruction (cargo aircraft): 366
Packing instruction (LQ): Y344
Packing group: III
Labels: Flammable Liquids

IATA (Passenger)
Packing instruction (passenger aircraft): 355
Packing instruction (LQ): Y344
Packing group: III
Labels: Flammable Liquids

14.5 Environmental hazards

ADN
Environmentally hazardous: yes

ADR
Environmentally hazardous: yes

RID
Environmentally hazardous: yes

IMDG
Marine pollutant: yes

14.6 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.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Remarks: Not applicable for product as supplied.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

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

AICS: not determined
DSL: not determined
IECSC: not determined
15.2 Chemical safety assessment
A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

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

Full text of H-statements
H226 : Flammable liquid and vapour.
H301 : Toxic if swallowed.
H302 : Harmful if swallowed.
H317 : May cause an allergic skin reaction.
H332 : Harmful if inhaled.
H336 : May cause drowsiness or dizziness.
H372 : Causes damage to organs through prolonged or repeated exposure.
H400 : Very toxic to aquatic life.
H410 : Very toxic to aquatic life with long lasting effects.

Full text of other abbreviations
Acute Tox. : Acute toxicity
Aquatic Acute : Short-term (acute) aquatic hazard
Aquatic Chronic : Long-term (chronic) aquatic hazard
Flam. Liq. : Flammable liquids
Skin Sens. : Skin sensitisation
STOT RE : Specific target organ toxicity - repeated exposure
STOT SE : Specific target organ toxicity - single exposure
ZA OEL : South Africa. Hazardous Chemical Substances Regulations, Occupational Exposure Limits
2000/39/EC / TWA : Limit Value - eight hours
2000/39/EC / STEL : Short term exposure limit
ZA OEL / TWA OEL-RL : Long term occupational exposure limits - recommended limit
ZA OEL / STEL OEL-RL : Short term occupational exposure limits - recommended limit

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; 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; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Civil Aviation Organization; 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; KECl - 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; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance 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

Further information

Sources of key data used to compile the Safety Data Sheet:

Classification of the mixture:

<table>
<thead>
<tr>
<th>Classification procedure:</th>
<th>Classification of the mixture:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Based on product data or assessment</td>
<td>Flam. Liq. 3 H226</td>
</tr>
<tr>
<td>Calculation method</td>
<td>Acute Tox. 4 H302</td>
</tr>
<tr>
<td>Calculation method</td>
<td>Acute Tox. 4 H322</td>
</tr>
<tr>
<td>Calculation method</td>
<td>Skin Sens. 1 H317</td>
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<tr>
<td>Calculation method</td>
<td>STOT SE 3 H336</td>
</tr>
<tr>
<td>Calculation method</td>
<td>STOT RE 1 H372</td>
</tr>
<tr>
<td>Calculation method</td>
<td>Aquatic Acute 1 H400</td>
</tr>
<tr>
<td>Calculation method</td>
<td>Aquatic Chronic 1 H410</td>
</tr>
</tbody>
</table>

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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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