SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Indoxacarb Formulation

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

1.1 Product identifier
   Trade name : Indoxacarb 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
              Walton Manor, Walton
              MK7 7AJ Milton Keynes - United Kingdom
   Telephone : 908-740-4000
   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 2 : H225: Highly flammable liquid and vapour.
   Acute toxicity, Category 4 : H302: Harmful if swallowed.
   Eye irritation, Category 2 : H319: Causes serious eye irritation.
   Skin sensitisation, Category 1 : H317: May cause an allergic skin reaction.
   Specific target organ toxicity - single exposure, Category 3 : H336: May cause drowsiness or dizziness.
   Specific target organ toxicity - repeated exposure, Category 1 : H372: Causes damage to organs through prolonged or repeated exposure.
   Long-term (chronic) aquatic hazard, Category 2 : H411: Toxic to aquatic life with long lasting effects.

2.2 Label elements
   Labelling (REGULATION (EC) No 1272/2008)
   Hazard pictograms :
   Signal word : Danger
Hazard statements:

- H225: Highly flammable liquid and vapour.
- H302: Harmful if swallowed.
- H317: May cause an allergic skin reaction.
- H319: Causes serious eye irritation.
- H336: May cause drowsiness or dizziness.
- H372: Causes damage to organs through prolonged or repeated exposure.
- H411: Toxic to aquatic life with long lasting effects.

Precautionary statements:

**Prevention:**
- P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P233: Keep container tightly closed.
- 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.
- P391: Collect spillage.

Hazardous components which must be listed on the label:
- Propan-2-ol
- Indoxacarb (ISO)

2.3 Other hazards

A vapours may form explosive mixture with air.

### SECTION 3: Composition/information on ingredients

#### 3.2 Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No. Registration number</th>
<th>Classification</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propan-2-ol</td>
<td>67-63-0</td>
<td></td>
<td></td>
<td>Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336</td>
<td>&gt;= 30 - &lt; 50</td>
</tr>
<tr>
<td></td>
<td>200-661-7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>603-117-0-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indoxacarb (ISO)</td>
<td>173584-44-6</td>
<td></td>
<td></td>
<td>Acute Tox. 3; H301 Acute Tox. 4; H332 Skin Sens. 1B; H317 STOT RE 1; H372 Aquatic Acute 1; H400 Aquatic Chronic 1; H410</td>
<td>&gt;= 10 - &lt; 20</td>
</tr>
<tr>
<td></td>
<td>607-700-00-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

M-Factor (Acute)
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. 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: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lens, if worn. Get medical attention.

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.

4.2 Most important symptoms and effects, both acute and delayed

Risks: Harmful if swallowed. May cause an allergic skin reaction. Causes serious eye irritation. 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

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.
   Ventilate the area.
   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/PERSOAL 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.
- Do not get in 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:
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>Propan-2-ol</td>
<td>67-63-0</td>
<td>TWA</td>
<td>400 ppm 999 mg/m³</td>
<td>GB EH40</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>500 ppm 1.250 mg/m³</td>
<td>GB EH40</td>
</tr>
<tr>
<td>Indoxacarb (ISO)</td>
<td>173584-44-6</td>
<td>TWA</td>
<td>20 µg/m³</td>
<td>Internal</td>
</tr>
</tbody>
</table>

Further information
- Skin sensitisation
- Wipe limit: 100 µg/100 cm² Internal

### Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

<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>Ethyl Acetoacetate</td>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>29.1667 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>8.333 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>6.25 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>4.167 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Ingestion</td>
<td>Long-term systemic effects</td>
<td>4.167 mg/kg bw/day</td>
</tr>
<tr>
<td>Triacetin</td>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>35.275 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>5 mg/kg bw/day</td>
</tr>
</tbody>
</table>
### Indoxacarb Formulation

#### 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>Ethyl Acetoacetate</td>
<td>Fresh water</td>
<td>0.1 mg/l</td>
</tr>
<tr>
<td></td>
<td>Freshwater - intermittent</td>
<td>1 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.01 mg/l</td>
</tr>
<tr>
<td></td>
<td>Sewage treatment plant</td>
<td>300 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>0.1465 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>0.0147 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>0.0501 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td>triacetin</td>
<td>Fresh water</td>
<td>1.88 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.188 mg/l</td>
</tr>
<tr>
<td></td>
<td>Intermittent use/release</td>
<td>1 mg/l</td>
</tr>
<tr>
<td></td>
<td>Sewage treatment plant</td>
<td>1088 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>4.73 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>0.47 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>0.57 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Oral (Secondary Poisoning)</td>
<td>69.9 mg/kg food</td>
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<tr>
<td>Propan-2-ol</td>
<td>Fresh water</td>
<td>140.9 mg/l</td>
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<tr>
<td></td>
<td>Marine water</td>
<td>140.9 mg/l</td>
</tr>
<tr>
<td></td>
<td>Intermittent use/release</td>
<td>140.9 mg/l</td>
</tr>
<tr>
<td></td>
<td>Sewage treatment plant</td>
<td>2251 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>552 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>552 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>28 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td></td>
<td>Oral (Secondary Poisoning)</td>
<td>160 mg/kg food</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 goggles
  - Equipment should conform to BS EN 166

**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 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).

**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**: White to light yellow
- **Odour**: sweet
- **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**: 18 °C
- **Evaporation rate**: No data available
Indoxacarb Formulation

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
Density : 1.12 g/cm³
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 : Highly 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.

Product:

Acute oral toxicity: Acute toxicity estimate: 916.54 mg/kg
Method: Calculation method

Acute inhalation toxicity: Acute toxicity estimate: > 5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Components:

Propan-2-ol:

Acute oral toxicity: LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity: LC50 (Rat): > 25 mg/l
Exposure time: 6 h
Test atmosphere: vapour

Acute dermal toxicity: LD50 (Rabbit): > 5,000 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
Indoxacarb Formulation

Skin corrosion/irritation
Not classified based on available information.

Components:
Propan-2-ol:
Species : Rabbit
Result  : No skin irritation

Indoxacarb (ISO):
Result : No skin irritation

Serious eye damage/eye irritation
Causes serious eye irritation.

Components:
Propan-2-ol:
Species : Rabbit
Result  : Irritation to eyes, reversing within 21 days

Indoxacarb (ISO):
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:
Propan-2-ol:
Test Type  : Buehler Test
Exposure routes : Skin contact
Species     : Guinea pig
Method      : OECD Test Guideline 406
Result      : negative

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

Germ cell mutagenicity
Not classified based on available information.

Components:
Propan-2-ol:
# Indoxacarb Formulation

<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date</th>
<th>SDS Number</th>
<th>Date of last issue</th>
<th>Date of first issue</th>
</tr>
</thead>
</table>

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

- **Test Type:** In vitro mammalian cell gene mutation test
  - 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:

### Propan-2-ol:
- **Species:** Rat
- **Application Route:** Inhalation (vapour)
- **Exposure time:** 104 weeks
- **Method:** OECD Test Guideline 451
- **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
Reproductive toxicity
Not classified based on available information.

Components:

Propan-2-ol:
Effects on fertility : Test Type: Two-generation reproduction toxicity study
                    Species: Rat
                    Application Route: Ingestion
                    Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
                                 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
                                 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
Indoxacarb Formulation

STOT - single exposure
May cause drowsiness or dizziness.

Components:
Propan-2-ol:
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:
Propan-2-ol:
Species : Rat
NOAEL : 12.5 mg/l
Application Route : inhalation (vapour)
Exposure time : 104 Weeks

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
Indoxacarb Formulation

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

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

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

Aspiration toxicity
Not classified based on available information.

Experience with human exposure

Components:

Indoxacarb (ISO):

General Information : No human information is available.

SECTION 12: Ecological information

12.1 Toxicity

Components:

Propan-2-ol:
Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 9,640 mg/l
Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 10,000 mg/l
Exposure time: 24 h
Toxicity to microorganisms : EC50 (Pseudomonas putida): > 1,050 mg/l
Exposure time: 16 h

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
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Indoxacarb Formulation

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

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

M-Factor (Chronic aquatic toxicity):
1

12.2 Persistence and degradability

Components:

Propan-2-ol:
Biodegradability: Result: rapidly degradable
BOD/COD: BOD: 1.19 (BOD5)
COD: 2.23
BOD/COD: 53 %

12.3 Bioaccumulative potential

Components:

Propan-2-ol:
Partition coefficient: n-octanol/water: log Pow: 0.05

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

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 1219
ADR : UN 1219
RID : UN 1219
IMDG : UN 1219
IATA : UN 1219

14.2 UN proper shipping name
ADN : ISOPROPANOL, SOLUTION
ADR : ISOPROPANOL, SOLUTION
RID : ISOPROPANOL, SOLUTION
IMDG : ISOPROPANOL, SOLUTION (Indoxacarb (ISO))
IATA : Isopropanol, solution

14.3 Transport hazard class(es)
ADN : 3
ADR : 3
RID : 3
IMDG : 3
IATA : 3
14.4 Packing group

**ADN**
Packing group: II
Classification Code: F1
Hazard Identification Number: 33
Labels: 3

**ADR**
Packing group: II
Classification Code: F1
Hazard Identification Number: 33
Labels: 3
Tunnel restriction code: (D/E)

**RID**
Packing group: II
Classification Code: F1
Hazard Identification Number: 33
Labels: 3

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

**IATA (Cargo)**
Packing instruction (cargo aircraft): 364
Packing instruction (LQ): Y341
Packing group: II
Labels: Flammable Liquids

**IATA (Passenger)**
Packing instruction (passenger aircraft): 353
Packing instruction (LQ): Y341
Packing group: II
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.
Indoxacarb Formulation

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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59): Not applicable
REACH - List of substances subject to authorisation (Annex XIV): Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer: Not applicable
Regulation (EC) No 850/2004 on persistent organic pollutants: Not applicable
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals: Not applicable
REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII): Conditions of restriction for the following entries should be considered: Number on list 3


<table>
<thead>
<tr>
<th>P5c</th>
<th>FLAMMABLE LIQUIDS</th>
<th>Quantity 1</th>
<th>Quantity 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>5,000 t</td>
<td>50,000 t</td>
</tr>
</tbody>
</table>

| E2   | ENVIRONMENTAL HAZARDS | 200 t | 500 t |

Other regulations:
Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

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

H225: Highly flammable liquid and vapour.
# Indoxacarb Formulation

<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date</th>
<th>SDS Number</th>
<th>Date of last issue: 24.04.2019</th>
<th>Date of first issue: 24.10.2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.2</td>
<td>09/13/2019</td>
<td>25521-00015</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| H301   | Toxic if swallowed. |
| H317   | May cause an allergic skin reaction. |
| H319   | Causes serious eye irritation. |
| 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
- Eye Irrit.: Eye irritation
- Flam. Liq.: Flammable liquids
- Skin Sens.: Skin sensitisation
- STOT RE: Specific target organ toxicity - repeated exposure
- STOT SE: Specific target organ toxicity - single exposure
- GB EH40: UK. EH40 WEL - Workplace Exposure Limits
- GB EH40 / TWA: Long-term exposure limit (8-hour TWA reference period)
- GB EH40 / STEL: Short-term exposure limit (15-minute reference period)

**ADN** - European Agreement concerning the International Carriage of Dangerous Goods by Road; **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; **CMR** - Carcinogen, Mutagen or Reproductive Toxicant; **DIN** - Standard of the German Institute for Standardisation; **DSL** - Domestic Substances List (Canada); **ECHA** - European Chemicals Agency; **EC** - 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 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; **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; **TRGS** - Technical Rule for Hazardous Substances; **TSCA** - Toxic Substances Control Act.
Indoxacarb Formulation

Version 4.2  Revision Date: 09/13/2019  SDS Number: 25521-00015  Date of last issue: 24.04.2019
Date of first issue: 24.10.2014

stances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information


Classification of the mixture:

<table>
<thead>
<tr>
<th>Class</th>
<th>Label</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flam. Liq.</td>
<td>H225</td>
<td>Class based on product data or assessment</td>
</tr>
<tr>
<td>Acute Tox.</td>
<td>H302</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Eye Irrit.</td>
<td>H319</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Skin Sens.</td>
<td>H317</td>
<td>Calculation method</td>
</tr>
<tr>
<td>STOT SE 3</td>
<td>H336</td>
<td>Calculation method</td>
</tr>
<tr>
<td>STOT RE 1</td>
<td>H372</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Aquatic Chronic 2</td>
<td>H411</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

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.

GB / EN