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

Abamectin / Fluazuron Formulation

Version 4.7 Revision Date: 27.08.2021 SDS Number: 803738-00018 Date of last issue: 26.04.2021

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

1.1 Product identifier
Trade name: Abamectin / Fluazuron 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
Kilsheelan
Clonmel Tipperary, IE

Telephone: 353-51-601000
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)

<table>
<thead>
<tr>
<th>Classification</th>
<th>Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable liquids, Category 3</td>
<td>H226: Flammable liquid and vapour.</td>
</tr>
<tr>
<td>Acute toxicity, Category 4</td>
<td>H332: Harmful if inhaled.</td>
</tr>
<tr>
<td>Skin irritation, Category 2</td>
<td>H315: Causes skin irritation.</td>
</tr>
<tr>
<td>Eye irritation, Category 2</td>
<td>H319: Causes serious eye irritation.</td>
</tr>
<tr>
<td>Skin sensitisation, Category 1</td>
<td>H317: May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>Reproductive toxicity, Category 1B</td>
<td>H360D: May damage the unborn child.</td>
</tr>
<tr>
<td>Specific target organ toxicity - single exposure, Category 3</td>
<td>H336: May cause drowsiness or dizziness.</td>
</tr>
<tr>
<td>Specific target organ toxicity - single exposure, Category 3</td>
<td>H335: May cause respiratory irritation.</td>
</tr>
<tr>
<td>Specific target organ toxicity - repeated exposure, Category 2</td>
<td>H373: May cause damage to organs through prolonged or repeated exposure.</td>
</tr>
<tr>
<td>Short-term (acute) aquatic hazard, Category 1</td>
<td>H400: Very toxic to aquatic life.</td>
</tr>
<tr>
<td>Long-term (chronic) aquatic hazard, Category 1</td>
<td>H410: Very toxic to aquatic life with long lasting effects.</td>
</tr>
</tbody>
</table>

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)
Hazard pictograms:

Signal word: Danger

Hazard statements:
H226 Flammable liquid and vapour.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H322 Harmful if inhaled.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H338 May damage the unborn child.
H339 May cause damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements:
Prevention:
P201 Obtain special instructions before use.
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:
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P391 Collect spillage.

Hazardous components which must be listed on the label:
Propan-2-ol
N-Methyl-2-pyrrolidone
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate
abamectin (combination of avermectin B1a and avermectin B1b) (ISO)

Additional Labelling
Restricted to professional users.

2.3 Other hazards
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Vapours may form explosive mixture with air.

### SECTION 3: Composition/information on ingredients

#### 3.2 Mixtures

<table>
<thead>
<tr>
<th>Components</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>Propan-2-ol</td>
<td>67-63-0</td>
<td>200-661-7</td>
<td>603-117-00-0</td>
<td>Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336</td>
<td>&gt;= 30 - &lt; 50</td>
</tr>
<tr>
<td>Propan-2-ol</td>
<td>872-50-4</td>
<td>212-828-1</td>
<td>606-021-00-7</td>
<td>Skin Irrit. 2; H315 Eye Irrit. 2; H319 Rep. 1B; H360D STOT SE 3; H335</td>
<td>&gt;= 30 - &lt; 50</td>
</tr>
<tr>
<td>Propan-2-ol</td>
<td>71751-41-2</td>
<td>606-143-00-0</td>
<td></td>
<td></td>
<td>&gt;= 1 - &lt; 2,5</td>
</tr>
<tr>
<td>Fluazuron</td>
<td>86811-58-7</td>
<td></td>
<td></td>
<td>Aquatic Acute 1; H400 Aquatic Chronic 1; H410</td>
<td>&gt;= 2.5 - &lt; 10</td>
</tr>
<tr>
<td>Fluazuron</td>
<td></td>
<td></td>
<td></td>
<td>M-Factor (Acute aquatic toxicity): 1.000 M-Factor (Chronic aquatic toxicity): 1.000</td>
<td></td>
</tr>
<tr>
<td>abamectin (combination of avermectin B1a and avermectin B1b) (ISO)</td>
<td>71751-41-2</td>
<td>606-143-00-0</td>
<td></td>
<td>Acute Tox. 2; H300 Acute Tox. 1; H330 Acute Tox. 3; H311 Rep. 2; H361fd STOT RE 1; H372 (Central nervous system) Aquatic Acute 1; H400 Aquatic Chronic 1; H410</td>
<td>&gt;= 1 - &lt; 2,5</td>
</tr>
</tbody>
</table>
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Abamectin / Fluazuron Formulation

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| 7-Oxabicyclo[4.1.0]hept-3-yilmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate | aquatic toxicity: 10.000 |
| 2386-87-0 219-207-4 | specific concentration limit STOT RE 1; H372 >= 5 % STOT RE 2; H373 0,5 - < 5 % |
| 2,6-Di-tert-butyl-p-cresol | Skin Sens. 1; H317 >= 1 - < 10 |
| 128-37-0 204-881-4 | Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1 |

For explanation of abbreviations see section 16.

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.

In case of skin contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing 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:
- Causes skin irritation.
- May cause an allergic skin reaction.
- Causes serious eye irritation.
- Harmful if inhaled.
- May cause respiratory irritation.
- May cause drowsiness or dizziness.
- May damage the unborn child.
- May cause 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
- Nitrogen oxides (NOx)
- Chlorine compounds
- Fluorine 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 method:
- Use extinguishing measures that are appropriate to local cir-
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 (see section 7) and personal protective equipment recommendations (see section 8).

6.2 Environmental precautions

Environmental precautions:
- Avoid release to the environment.
- 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 dyeing 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.
Use explosion-proof electrical, ventilating and lighting equipment.

**Advice on safe handling:**
- Do not get on skin or clothing.
- Do not breathe mist or vapours.
- Do not swallow.
- Do not get in eyes.
- Wash skin thoroughly after handling.
- 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.
- Already sensitised individuals should consult their physician regarding working with respiratory irritants or sensitisers.
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Take precautionary measures against static discharges.
- Do not eat, drink or smoke when using this product.
- 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. Contaminated work clothing should not be allowed out of the workplace.
- Wash contaminated clothing before re-use.
- The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.

### 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>100 ppm 245 mg/m³</td>
<td>FOR-2011-12-06-1358</td>
</tr>
<tr>
<td>N-Methyl-2-pyrrolidone</td>
<td>872-50-4</td>
<td>TWA</td>
<td>5 ppm 20 mg/m³</td>
<td>FOR-2011-12-06-1358</td>
</tr>
</tbody>
</table>

Further information: Substances considered to be reprotoxic, Chemicals that can be absorbed through the skin.

<table>
<thead>
<tr>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>STEL</td>
<td>20 ppm 80 mg/m³</td>
<td>FOR-2011-12-06-1358</td>
</tr>
</tbody>
</table>

Further information: Substances considered to be reprotoxic, Chemicals that can be absorbed through the skin.

<table>
<thead>
<tr>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>TWA</td>
<td>10 ppm 40 mg/m³</td>
<td>2009/161/EU</td>
</tr>
</tbody>
</table>

Further information: Identifies the possibility of significant uptake through the skin, Indicative

<table>
<thead>
<tr>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>STEL</td>
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</table>

Further information: Identifies the possibility of significant uptake through the skin, Indicative

<table>
<thead>
<tr>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>TWA</td>
<td>15 µg/m³ (OEB 3)</td>
<td>Internal</td>
</tr>
</tbody>
</table>

Wipe limit 600 µg/100 cm² Internal

<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>N-Methyl-2-pyrrolidone</td>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>14,4 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term local effects</td>
<td>40 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>4,8 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>3,6 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Inhalation</td>
<td>Long-term local effects</td>
<td>4,5 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>2,4 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Ingestion</td>
<td>Long-term systemic effects</td>
<td>0,85 mg/kg bw/day</td>
</tr>
<tr>
<td>7-</td>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term systemic</td>
<td>0,18 mg/m³</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Substance name</th>
<th>Environmental Compartment</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-Methyl-2-pyrrolidone</td>
<td>Fresh water</td>
<td>0.25 mg/l</td>
</tr>
<tr>
<td></td>
<td>Freshwater - intermittent</td>
<td>5 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.025 mg/l</td>
</tr>
<tr>
<td></td>
<td>Sewage treatment plant</td>
<td>10 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>1.09 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>1.09 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>0.07 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td>7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate</td>
<td>Fresh water</td>
<td>0.024 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.0024 mg/l</td>
</tr>
<tr>
<td></td>
<td>Intermittent use/release</td>
<td>0.24 mg/l</td>
</tr>
<tr>
<td></td>
<td>Sewage treatment plant</td>
<td>19.5 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>0.211 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>0.0211 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>0.0282 mg/kg</td>
</tr>
</tbody>
</table>

Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate

<table>
<thead>
<tr>
<th>Effects</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workers Inhalation</td>
<td>Long-term local effects</td>
</tr>
<tr>
<td>Workers Skin contact</td>
<td>Long-term systemic effects</td>
</tr>
<tr>
<td>Propan-2-ol Workers Inhalation</td>
<td>Long-term systemic effects</td>
</tr>
<tr>
<td>Workers Skin contact</td>
<td>Long-term systemic effects</td>
</tr>
<tr>
<td>Consumers Inhalation</td>
<td>Long-term systemic effects</td>
</tr>
<tr>
<td>Consumers Skin contact</td>
<td>Long-term systemic effects</td>
</tr>
<tr>
<td>Consumers Ingestion</td>
<td>Long-term systemic effects</td>
</tr>
<tr>
<td>2,6-Di-tert-butyl-p-cresol Workers Inhalation</td>
<td>Long-term systemic effects</td>
</tr>
<tr>
<td>Workers Dermal</td>
<td>Long-term systemic effects</td>
</tr>
<tr>
<td>Consumers Inhalation</td>
<td>Long-term systemic effects</td>
</tr>
<tr>
<td>Consumers Dermal</td>
<td>Long-term systemic effects</td>
</tr>
<tr>
<td>Consumers Ingestion</td>
<td>Long-term systemic effects</td>
</tr>
</tbody>
</table>

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

Intermittent use/release | 0.24 mg/l |
Sewage treatment plant | 19.5 mg/l |
Fresh water sediment | 0.211 mg/kg |
Marine sediment | 0.0211 mg/kg |
Soil | 0.0282 mg/kg |
8.2 Exposure controls

**Engineering measures**

Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., drip-less quick connections).

All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment.

Containment technologies suitable for controlling compounds are required to control at source and to prevent migration of the compound to uncontrolled areas (e.g., open-face containment devices).

Minimize open handling.

Use explosion-proof electrical, ventilating and lighting equipment.

**Personal protective equipment**

**Eye protection**

- Wear safety glasses with side shields or goggles.
- If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles.
- Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols.

**Hand protection**

- Material: Chemical-resistant gloves

**Remarks**

- Consider double gloving. Take note that the product is flammable, which may impact the selection of hand protection.

**Skin and body protection**

- Work uniform or laboratory coat.
- Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces.
- Use appropriate degowning techniques to remove potentially...
Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection. Equipment should conform to EN 14387

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

Physical state : liquid
Colour : No data available
Odour : No data available
Odour Threshold : No data available
Melting point/freezing point : No data available
Initial boiling point and boiling range : No data available
Flammability (solid, gas) : Not applicable
Flammability (liquids) : Not applicable
Upper explosion limit / Upper flammability limit : No data available
Lower explosion limit / Lower flammability limit : No data available
Flash point : 28 °C
Auto-ignition temperature : No data available
Decomposition temperature : No data available
pH : No data available
Viscosity : No data available
Viscosity, kinematic : No data available
Solubility(ies) : No data available
Water solubility : No data available
Partition coefficient: n-octanol/water : Not applicable
Vapour pressure : No data available
Relative density : No data available
Density : No data available
Relative vapour density : No data available
9.2 Other information

Explosives: Not explosive

Oxidizing properties: The substance or mixture is not classified as oxidizing.

Evaporation rate: No data available

Molecular weight: 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 hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure:
- Inhalation
- Skin contact
- Ingestion
- Eye contact

Acute toxicity

Harmful if inhaled.

Product:

Acute oral toxicity: Acute toxicity estimate: > 2.000 mg/kg
Method: Calculation method

Acute inhalation toxicity: Acute toxicity estimate: 2.06 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 2.000 mg/kg
                     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

N-Methyl-2-pyrrolidone:
Acute oral toxicity  : LD50 (Rat): 4.150 mg/kg
Acute inhalation toxicity : LC50 (Rat): > 5.1 mg/l
                          Exposure time: 4 h
                          Test atmosphere: dust/mist
                          Method: OECD Test Guideline 403
Acute dermal toxicity : LD50 (Rat): > 5.000 mg/kg

Fluazuron:
Acute oral toxicity  : LD50 (Rat): > 5.000 mg/kg
                     Method: OECD Test Guideline 401
Acute inhalation toxicity : LC50 (Rat): > 6.0 mg/l
                          Exposure time: 4 h
                          Test atmosphere: dust/mist
                          Method: OECD Test Guideline 403
Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg
                     Method: OECD Test Guideline 402

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):
Acute oral toxicity  : LD50 (Rat): 24 mg/kg
                         LD50 (Mouse): 10 mg/kg
                         LDLo (Monkey): 24 mg/kg
                         Symptoms: Dilatation of the pupil
Acute inhalation toxicity : LC50 (Rat): 0.023 mg/l
                          Exposure time: 4 h
                          Test atmosphere: dust/mist
Acute dermal toxicity: LD50 (Rat): 330 mg/kg
   LD50 (Rabbit): 2.000 mg/kg

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:
Acute oral toxicity: LD50 (Rat, male): 2.959 - 5.000 mg/kg
   Method: OECD Test Guideline 401

Acute inhalation toxicity: LC50 (Rat): >= 5.19 mg/l
   Exposure time: 4 h
   Test atmosphere: dust/mist
   Method: OECD Test Guideline 436
   Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity: LD50 (Rat): > 2.000 mg/kg
   Method: OECD Test Guideline 402
   Assessment: The substance or mixture has no acute dermal toxicity

2,6-Di-tert-butyl-p-cresol:
Acute oral toxicity: LD50 (Rat): > 6.000 mg/kg
   Method: OECD Test Guideline 401

Acute dermal toxicity: LD50 (Rat): > 2.000 mg/kg
   Method: OECD Test Guideline 402
   Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation:
Causes skin irritation.

Components:

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

N-Methyl-2-pyrrolidone:
Result: Skin irritation

Fluazuron:
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):
Species: Rabbit
Result: No skin irritation
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation

2,6-Di-tert-butyl-p-cresol:
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation
Remarks: Based on data from similar materials

Serious eye damage/eye irritation
Causes serious eye irritation.

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

N-Methyl-2-pyrrolidone:
Species: Rabbit
Result: Irritation to eyes, reversing within 21 days

Fluazuron:
Species: Rabbit
Method: OECD Test Guideline 405
Result: Mild eye irritation

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):
Species: Rabbit
Result: Mild eye irritation

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:
Species: Rabbit
Method: OECD Test Guideline 405
Result: No eye irritation

2,6-Di-tert-butyl-p-cresol:
Species: Rabbit
Method: OECD Test Guideline 405
Result: Based on data from similar materials

Remarks: Based on data from similar materials
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

N-Methyl-2-pyrrolidone:
Test Type: Local lymph node assay (LLNA)
Exposure routes: Skin contact
Species: Mouse
Method: OECD Test Guideline 429
Result: negative
Remarks: Based on data from similar materials

Fluazuron:
Exposure routes: Skin contact
Species: Guinea pig
Result: negative

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):
Test Type: Maximisation Test
Exposure routes: Skin contact
Result: Not a skin sensitizer.

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:
Test Type: Maximisation Test
Exposure routes: Skin contact
Species: Guinea pig
Result: positive
Assessment: Probability or evidence of skin sensitisation in humans

2,6-Di-tert-butyl-p-cresol:
Test Type: Human repeat insult patch test (HRIPT)
Exposure routes: Skin contact
Species: Humans
Result: negative
SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Abamectin / Fluazuron Formulation

Version 4.7  Revision Date: 27.08.2021  SDS Number: 803738-00018  Date of last issue: 26.04.2021
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Germ cell mutagenicity
Not classified based on available information.

Components:

Propan-2-ol:
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

N-Methyl-2-pyrrolidone:
Genotoxicity in vitro: Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative
Test Type: In vitro mammalian cell gene mutation test  
Method: OECD Test Guideline 476  
Result: negative
Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)  
Result: negative

Genotoxicity in vivo: Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Mouse  
Application Route: Ingestion  
Method: OECD Test Guideline 474  
Result: negative
Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)  
Species: Hamster  
Application Route: Ingestion  
Method: OECD Test Guideline 475  
Result: negative

Fluazuron:
Genotoxicity in vitro: Test Type: Bacterial reverse mutation assay (AMES)  
Result: negative
Test Type: DNA Repair  
Result: negative
Test Type: In vitro mammalian cell gene mutation test
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Result: negative

Genotoxicity in vivo:
- Test Type: Cytogenetic assay
- Species: Hamster
- Result: equivocal

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):
Genotoxicity in vitro:
- Test Type: Bacterial reverse mutation assay (AMES)
  Result: negative
- Test Type: In vitro mammalian cell gene mutation test
  Test system: Chinese hamster lung cells
  Result: negative
- Test Type: Alkaline elution assay
  Result: negative

Genotoxicity in vivo:
- Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
  Species: Mouse
  Application Route: Intraperitoneal injection
  Result: negative

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:
Genotoxicity in vitro:
- Test Type: In vitro mammalian cell gene mutation test
  Result: positive

Genotoxicity in vivo:
- Test Type: Unscheduled DNA synthesis (UDS) test with mammalian liver cells in vivo
  Species: Rat
  Application Route: Ingestion
  Method: OECD Test Guideline 486
  Result: negative
- Test Type: Micronucleus test
  Species: Mouse
  Application Route: Intraperitoneal injection
  Result: negative

Germ cell mutagenicity: Assessment
- Weight of evidence does not support classification as a germ cell mutagen.

2,6-Di-tert-butyl-p-cresol:
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
## Genotoxicity in vivo

**Test Type**: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)

- **Species**: Rat
- **Application Route**: Ingestion
- **Result**: negative

## Carcinogenicity

Not classified based on available information.

### Components:

#### Propan-2-ol:
- **Species**: Rat
- **Application Route**: Inhilation (vapour)
- **Exposure time**: 104 weeks
- **Method**: OECD Test Guideline 451
- **Result**: negative

#### N-Methyl-2-pyrrolidone:
- **Species**: Rat
- **Application Route**: Ingestion
- **Exposure time**: 2 Years
- **Result**: negative

#### Fluazuron:
- **Species**: Rat
- **Application Route**: Ingestion
- **Exposure time**: 2 Years
- **Method**: OECD Test Guideline 453
- **Result**: negative

#### abamectin (combination of avermectin B1a and avermectin B1b) (ISO):
- **Species**: Rat
- **Application Route**: Oral
- **Exposure time**: 105 weeks
- **Result**: negative

- **Species**: Mouse
- **Application Route**: Oral
- **Exposure time**: 93 weeks
- **Result**: negative
2,6-Di-tert-butyl-p-cresol:
Species: Rat
Application Route: Ingestion
Exposure time: 22 Months
Result: negative

Reproductive toxicity
May damage the unborn child.

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

N-Methyl-2-pyrrolidone:
Effects on fertility: Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 416
Result: negative

Effects on foetal development: Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 414
Result: positive

Test Type: Fertility/early embryonic development
Species: Rat
Application Route: Inhalation (vapour)
Result: positive

Test Type: Embryo-foetal development
Species: Rabbit
Application Route: Ingestion
Result: positive

Reproductive toxicity - Assessment: Clear evidence of adverse effects on development, based on animal experiments.

Fluazuron:
Effects on fertility: Test Type: Two-generation reproduction toxicity study
Abamectin / Fluazuron Formulation

| Species: Rat | Application Route: Ingestion | Result: negative |
| Effects on foetal development | Test Type: Embryo-foetal development | Species: Rat | Application Route: Ingestion | Result: negative |
| Test Type: Embryo-foetal development | Species: Rabbit | Application Route: Ingestion | Method: OECD Test Guideline 414 | Result: negative |

**Effects on fertility**

| Test Type: Fertility | Species: Rat, male | Application Route: Oral | Result: Effects on fertility |
| Test Type: Two-generation reproduction toxicity study | Species: Rat | Application Route: Oral | Early Embryonic Development: NOAEL: 0,12 mg/kg body weight | Result: Fetotoxicity |

**Effects on foetal development**

| Test Type: Embryo-foetal development | Species: Mouse | Application Route: Oral | General Toxicity Maternal: NOAEL: 0,05 mg/kg body weight | Developmental Toxicity: NOAEL: 0,2 mg/kg body weight | Result: Cleft palate | Remarks: Adverse developmental effects were observed |
| Test Type: Embryo-foetal development | Species: Rabbit | Application Route: Oral | Developmental Toxicity: LOAEL: 2 mg/kg body weight | Result: Cleft palate, Teratogenic effects, Reduced embryonic survival | Remarks: Adverse developmental effects were observed |

**Reproductive toxicity - Assessment**

| Test Type: Development | Species: Rat | Application Route: Oral | Developmental Toxicity: LOAEL: 1,6 mg/kg body weight | Result: Teratogenic effects |

**abamectin (combination of avermectin B1a and avermectin B1b) (ISO):**

| Test Type: Embryo-foetal development | Species: Mouse | Application Route: Oral | General Toxicity Maternal: NOAEL: 0,05 mg/kg body weight | Developmental Toxicity: NOAEL: 0,2 mg/kg body weight | Result: Cleft palate, Teratogenic effects, Reduced embryonic survival | Remarks: Adverse developmental effects were observed |
| Test Type: Development | Species: Rat | Application Route: Oral | Developmental Toxicity: LOAEL: 1,6 mg/kg body weight | Result: Teratogenic effects | Remarks: Adverse developmental effects were observed |

**Remarks:** Adverse developmental effects were observed

**Reproductive toxicity - Assessment**

| Test Type: Development | Species: Rat | Application Route: Oral | Developmental Toxicity: LOAEL: 1,6 mg/kg body weight | Result: Teratogenic effects | Remarks: Adverse developmental effects were observed |

**Reproductive toxicity - Assessment**

| Test Type: Development | Species: Rat | Application Route: Oral | Developmental Toxicity: LOAEL: 1,6 mg/kg body weight | Result: Teratogenic effects | Remarks: Adverse developmental effects were observed |

**Reproductive toxicity - Assessment**

| Test Type: Development | Species: Rat | Application Route: Oral | Developmental Toxicity: LOAEL: 1,6 mg/kg body weight | Result: Teratogenic effects | Remarks: Adverse developmental effects were observed |

**Reproductive toxicity - Assessment**

| Test Type: Development | Species: Rat | Application Route: Oral | Developmental Toxicity: LOAEL: 1,6 mg/kg body weight | Result: Teratogenic effects | Remarks: Adverse developmental effects were observed |

**Reproductive toxicity - Assessment**

| Test Type: Development | Species: Rat | Application Route: Oral | Developmental Toxicity: LOAEL: 1,6 mg/kg body weight | Result: Teratogenic effects | Remarks: Adverse developmental effects were observed |

**Reproductive toxicity - Assessment**

| Test Type: Development | Species: Rat | Application Route: Oral | Developmental Toxicity: LOAEL: 1,6 mg/kg body weight | Result: Teratogenic effects | Remarks: Adverse developmental effects were observed |

**Reproductive toxicity - Assessment**

| Test Type: Development | Species: Rat | Application Route: Oral | Developmental Toxicity: LOAEL: 1,6 mg/kg body weight | Result: Teratogenic effects | Remarks: Adverse developmental effects were observed |

**Reproductive toxicity - Assessment**

| Test Type: Development | Species: Rat | Application Route: Oral | Developmental Toxicity: LOAEL: 1,6 mg/kg body weight | Result: Teratogenic effects | Remarks: Adverse developmental effects were observed |

**Reproductive toxicity - Assessment**

| Test Type: Development | Species: Rat | Application Route: Oral | Developmental Toxicity: LOAEL: 1,6 mg/kg body weight | Result: Teratogenic effects | Remarks: Adverse developmental effects were observed |

**Reproductive toxicity - Assessment**

| Test Type: Development | Species: Rat | Application Route: Oral | Developmental Toxicity: LOAEL: 1,6 mg/kg body weight | Result: Teratogenic effects | Remarks: Adverse developmental effects were observed |

**Reproductive toxicity - Assessment**

| Test Type: Development | Species: Rat | Application Route: Oral | Developmental Toxicity: LOAEL: 1,6 mg/kg body weight | Result: Teratogenic effects | Remarks: Adverse developmental effects were observed |

**Reproductive toxicity - Assessment**

| Test Type: Development | Species: Rat | Application Route: Oral | Developmental Toxicity: LOAEL: 1,6 mg/kg body weight | Result: Teratogenic effects | Remarks: Adverse developmental effects were observed |

**Reproductive toxicity - Assessment**

| Test Type: Development | Species: Rat | Application Route: Oral | Developmental Toxicity: LOAEL: 1,6 mg/kg body weight | Result: Teratogenic effects | Remarks: Adverse developmental effects were observed |

**Reproductive toxicity - Assessment**

| Test Type: Development | Species: Rat | Application Route: Oral | Developmental Toxicity: LOAEL: 1,6 mg/kg body weight | Result: Teratogenic effects | Remarks: Adverse developmental effects were observed |

**Reproductive toxicity - Assessment**

| Test Type: Development | Species: Rat | Application Route: Oral | Developmental Toxicity: LOAEL: 1,6 mg/kg body weight | Result: Teratogenic effects | Remarks: Adverse developmental effects were observed |
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:
Effects on foetal development: Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 414
Result: negative

2,6-Di-tert-butyl-p-cresol:
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

STOT - single exposure
May cause respiratory irritation.
May cause drowsiness or dizziness.

Components:
Propan-2-ol:
Assessment: May cause drowsiness or dizziness.

N-Methyl-2-pyrrolidone:
Assessment: May cause respiratory irritation.

STOT - repeated exposure
May cause damage to organs through prolonged or repeated exposure.

Components:
abamectin (combination of avermectin B1a and avermectin B1b) (ISO):
Exposure routes: Ingestion
Target Organs: Central nervous system
Assessment: Causes damage to organs through prolonged or repeated exposure.

2,6-Di-tert-butyl-p-cresol:
Assessment: No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.
Repeated dose toxicity

Components:

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

N-Methyl-2-pyrrolidone:
Species: Rat, male
NOAEL: 169 mg/kg
LOAEL: 433 mg/kg
Application Route: Ingestion
Exposure time: 90 Days
Method: OECD Test Guideline 408

Species: Rat
NOAEL: 0.5 mg/l
LOAEL: 1 mg/l
Application Route: inhalation (dust/mist/fume)
Exposure time: 96 Days
Method: OECD Test Guideline 413

Species: Rabbit
NOAEL: 826 mg/kg
LOAEL: 1.653 mg/kg
Application Route: Skin contact
Exposure time: 20 Days

Fluazuron:
Species: Rat
NOAEL: 240 mg/kg
Application Route: Ingestion
Exposure time: 13 Weeks
Target Organs: Liver, Thyroid, Pituitary gland

Species: Rat
NOAEL: 10 mg/kg
LOAEL: 100 mg/kg
Application Route: Skin contact
Exposure time: 3 Weeks

Species: Dog
NOAEL: 7.5 mg/kg
LOAEL: 110 mg/kg
Application Route: Ingestion
Exposure time: 52 Weeks
Target Organs: Liver

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):
### Abamectin / Fluazuron Formulation

<table>
<thead>
<tr>
<th>Species</th>
<th>NOAEL</th>
<th>Application Route</th>
<th>Exposure time</th>
<th>Target Organs</th>
<th>Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rat</td>
<td>1.5 mg/kg</td>
<td>Oral</td>
<td>24 Months</td>
<td>Central nervous system</td>
<td>Tremors, ataxia</td>
</tr>
<tr>
<td>Mouse</td>
<td>4.0 mg/kg</td>
<td>Oral</td>
<td>24 Months</td>
<td>Central nervous system</td>
<td>Tremors, ataxia</td>
</tr>
<tr>
<td>Dog</td>
<td>0.25 mg/kg</td>
<td>Oral</td>
<td>53 Weeks</td>
<td>Central nervous system</td>
<td>Tremors, weight loss</td>
</tr>
<tr>
<td>Monkey</td>
<td>1.0 mg/kg</td>
<td>Oral</td>
<td>14 Weeks</td>
<td>Central nervous system</td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**
- mortality observed

**2,6-Di-tert-butyl-p-cresol:**

<table>
<thead>
<tr>
<th>Species</th>
<th>NOAEL</th>
<th>Application Route</th>
<th>Exposure time</th>
<th>Target Organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rat</td>
<td>25 mg/kg</td>
<td>Ingestion</td>
<td>22 Months</td>
<td>Central nervous system</td>
</tr>
</tbody>
</table>

**Aspiration toxicity**
- Not classified based on available information.

### 11.2 Information on other hazards

#### Endocrine disrupting properties

**Product:**

**Assessment:** The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Experience with human exposure

**Components:**

**N-Methyl-2-pyrrolidone:**
Skin contact : Symptoms: Skin irritation

**abamectin (combination of avermectin B1a and avermectin B1b) (ISO):**
Ingestion : Symptoms: May cause, Tremors, Diarrhoea, central nervous system effects, Salivation, tearing

### 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

**N-Methyl-2-pyrrolidone:**
- **Toxicity to fish** : LC50 (Onchorhynchus mykiss (rainbow trout)): > 500 mg/l
  Exposure time: 96 h
- **Toxicity to daphnia and other aquatic invertebrates** : EC50 (Daphnia magna (Water flea)): > 1.000 mg/l
  Method: DIN 38412
- **Toxicity to algae/aquatic plants** : ER50 (Desmodesmus subspicatus (green algae)): 600,5 mg/l
  Exposure time: 72 h
  EC10 (Desmodesmus subspicatus (green algae)): 92,6 mg/l
  Exposure time: 72 h
- **Toxicity to microorganisms** : EC50 : > 600 mg/l
  Exposure time: 30 min
  Method: ISO 8192

**Fluazuron:**
- **Toxicity to fish** : LC50 (Cyprinus carpio (Carp)): > 9,1 mg/l
  Exposure time: 96 h
Abamectin / Fluazuron Formulation

Toxicity to daphnia and other aquatic invertebrates:
- EC50 (Daphnia sp. (water flea)): 0,0006 mg/l
  Exposure time: 48 h

Toxicity to algae/aquatic plants:
- NOEC (Raphidocelis subcapitata (freshwater green alga)): 27,9 mg/l
  Exposure time: 72 h

M-Factor (Acute aquatic toxicity):
- 1.000

M-Factor (Chronic aquatic toxicity):
- 1.000

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

Toxicity to fish:
- LC50 (Oncorhynchus mykiss (rainbow trout)): 3,2 µg/l
  Exposure time: 96 h
- LC50 (Lepomis macrochirus (Bluegill sunfish)): 9,6 µg/l
  Exposure time: 96 h
- LC50 (Ictalurus punctatus (channel catfish)): 24 µg/l
  Exposure time: 96 h
- LC50 (Cyprinus carpio (Carp)): 42 µg/l
  Exposure time: 96 h
- LC50 (Cyprinodon variegatus (sheepshead minnow)): 15 µg/l
  Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates:
- EC50 (Americamysis): 0,022 µg/l
  Exposure time: 96 h
- EC50 (Daphnia magna (Water flea)): 0,34 µg/l
  Exposure time: 48 h

Toxicity to algae/aquatic plants:
- EC50 (Pseudokirchneriella subcapitata (green algae)): 100 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
  Test Type: Respiration inhibition

Toxicity to fish (Chronic toxicity):
- NOEC: 0,52 µg/l
  Exposure time: 32 d
  Species: Pimephales promelas (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):
- NOEC: 0,03 µg/l
  Exposure time: 21 d
  Species: Daphnia magna (Water flea)
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Abamectin / Fluazuron Formulation

Version: 4.7    Revision Date: 27.08.2021    SDS Number: 803738-00018    Date of last issue: 26.04.2021
Date of first issue: 12.07.2016

NOEC: 0.0035 µg/l
Exposure time: 28 d
Species: Mysisopsis bahia (opossum shrimp)

M-Factor (Chronic aquatic toxicity): 10.000

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): 24 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 40 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants: ErC50 (Selenastrum capricornutum (green algae)): > 110 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

NOEC (Selenastrum capricornutum (green algae)): 30 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to microorganisms: EC10 (Natural microorganism): 409 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

2,6-Di-tert-butyl-p-cresol:

Toxicity to fish: LC50 (Danio rerio (zebra fish)): > 0,57 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 0,48 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants: ErC50 (Pseudokirchneriella subcapitata (green algae)): > 0,24 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 0,24 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity): 1

Toxicity to microorganisms: EC50: > 10.000 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209
Toxicity to fish (Chronic toxicity):
- NOEC: 0.053 mg/l
- Exposure time: 30 d
- Species: Oryzias latipes (Japanese medaka)
- Method: OECD Test Guideline 210

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):
- NOEC: 0.316 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 %

N-Methyl-2-pyrrolidone:
- Biodegradability: Result: Readily biodegradable.
  Biodegradation: 73 %
  Exposure time: 28 d
  Method: OECD Test Guideline 301C

Abamectin (combination of avermectin B1a and avermectin B1b) (ISO):
- Stability in water: Hydrolysis: 50 % (< 12 h)

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:
- Biodegradability: Biodegradation: 71 %
  Exposure time: 28 d
  Method: OECD Test Guideline 301B

Stability in water: Degradation half life (DT50): 2 d

2,6-Di-tert-butyl-p-cresol:
- Biodegradability: Result: Not readily biodegradable.
  Biodegradation: 4.5 %
  Exposure time: 28 d
  Method: OECD Test Guideline 301C

12.3 Bioaccumulative potential

Components:

Propan-2-ol:
Abamectin / Fluazuron Formulation

Partition coefficient: n-octanol/water : log Pow: 0,05

N-Methyl-2-pyrrolidone:
Partition coefficient: n-octanol/water : log Pow: -0,46
Method: OECD Test Guideline 107

Fluazuron:
Partition coefficient: n-octanol/water : log Pow: 5,1

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):
Bioaccumulation : Bioconcentration factor (BCF): 52

Bioaccumulation : log Pow: 4

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:
Partition coefficient: n-octanol/water : log Pow: 1,34

2,6-Di-tert-butyl-p-cresol:
Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 330 - 1.800

Partition coefficient: n-octanol/water : log Pow: 5,1

12.4 Mobility in soil

Components:

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):
Distribution among environmental compartments : log Koc: > 3,6

12.5 Results of PBT and vPvB assessment

Product:
Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:
Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
12.7 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 or ID number
ADN: UN 1993
ADR: UN 1993
RID: UN 1993
IMDG: UN 1993
IATA: UN 1993

14.2 UN proper shipping name
ADN: FLAMMABLE LIQUID, N.O.S. (Propan-2-ol)
ADR: FLAMMABLE LIQUID, N.O.S. (Propan-2-ol)
RID: FLAMMABLE LIQUID, N.O.S. (Propan-2-ol)
IMDG: FLAMMABLE LIQUID, N.O.S. (Propan-2-ol, Fluazuron, abamectin (combination of avermectin B1a and avermectin B1b) (ISO))
IATA: Flammable liquid, n.o.s. (Propan-2-ol)

14.3 Transport hazard class(es)
ADN: 3
ADR: 3
RID: 3
Abamectin / Fluazuron Formulation

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

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

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

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Date of first issue: 12.07.2016

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 Maritime transport in bulk according to IMO instruments
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 - 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 N-Methyl-2-pyrrolidone (Number on list 72, 71, 30)

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).
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 (EU) 2019/1021 on persistent organic pollutants (recast): Not applicable
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals:
- Not applicable


<table>
<thead>
<tr>
<th>P5c</th>
<th>FLAMMABLE LIQUIDS</th>
<th>Quantity 1</th>
<th>Quantity 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1</td>
<td>ENVIRONMENTAL HAZARDS</td>
<td>100 t</td>
<td>200 t</td>
</tr>
</tbody>
</table>

Other regulations:
Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.
Young people under the age of 18 are not allowed to use or be exposed to the product professionally. Young people above the age of 15 are, however, except from this rule if the product is a necessary part of their education.

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

Full text of H-Statements

H225: Highly flammable liquid and vapour.
H300: Fatal if swallowed.
H311: Toxic in contact with skin.
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H319: Causes serious eye irritation.
H330: Fatal if inhaled.
H335: May cause respiratory irritation.
H336: May cause drowsiness or dizziness.
H360D: May damage the unborn child.
H361fd: Suspected of damaging fertility. Suspected of damaging the unborn child.
H372: Causes damage to organs through prolonged or repeated exposure if swallowed.
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
Repr.: Reproductive toxicity
Skin Irrit.: Skin irritation
Skin Sens.: Skin sensitisation
STOT RE: Specific target organ toxicity - repeated exposure
STOT SE: Specific target organ toxicity - single exposure
FOR-2011-12-06-1358: Norway. Occupational Exposure limits
2009/161/EU / TWA: Limit Value - eight hours
2009/161/EU / STEL: Short term exposure limit
FOR-2011-12-06-1358 / TWA: Long term exposure limit
FOR-2011-12-06-1358 / STEL: Short term exposure 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; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation;
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according to Regulation (EC) No. 1907/2006

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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 Air Transport Association; 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; TCSI - Taiwan Chemical Substance Inventory; TECL - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture:

<table>
<thead>
<tr>
<th>Property</th>
<th>Code</th>
<th>Classification procedure</th>
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</thead>
<tbody>
<tr>
<td>Flam. Liq. 3</td>
<td>H226</td>
<td>Based on product data or assessment</td>
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<td>Acute Tox. 4</td>
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<td>Calculation method</td>
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<td>Skin Irrit. 2</td>
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<td>Calculation method</td>
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<tr>
<td>Eye Irrit. 2</td>
<td>H319</td>
<td>Calculation method</td>
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<td>H317</td>
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<td>H360D</td>
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<td>Aquatic Acute 1</td>
<td>H400</td>
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</tr>
<tr>
<td>Aquatic Chronic 1</td>
<td>H410</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.

NO / EN