SAFETY DATA SHEET

Abamectin / Fluazuron Formulation

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Abamectin / Fluazuron Formulation

Manufacturer or supplier’s details

Company: MSD
Address: Rua Coronel Bento Soares, 530 Cruzeiro - Sao Paulo - Brazil CEP 12730-340
Telephone: 908-740-4000
Emergency telephone: 1-908-423-6000
E-mail address: EHSDATASTEWARD@msd.com
Telefax: 908-735-1496

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

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification in accordance with ABNT NBR 14725 Standard

Flammable liquids: Category 3
Acute toxicity (Oral): Category 4
Acute toxicity (Inhalation): Category 4
Skin irritation: Category 2
Eye irritation: Category 2A
Skin sensitization: Category 1
Reproductive toxicity: Category 1B
Specific target organ toxicity - single exposure: Category 3
Specific target organ toxicity - repeated exposure: Category 2 (Central nervous system)
Short-term (acute) aquatic hazard: Category 1
Long-term (chronic) aquatic hazard: Category 1
SAFETY DATA SHEET

Abamectin / Fluazuron Formulation

GHS label elements in accordance with ABNT NBR 14725 Standard

<table>
<thead>
<tr>
<th>Hazard pictograms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Danger</td>
</tr>
</tbody>
</table>

Signal Word: Danger

Hazard Statements:
- H226 Flammable liquid and vapor.
- H302 + H332 Harmful if swallowed or if inhaled.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.
- H336 May cause drowsiness or dizziness.
- H360D May damage the unborn child.
- H373 May cause damage to organs (Central nervous system) 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/ sparks/ open flames/ hot surfaces.
- 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.

Other hazards which do not result in classification

Vapors may form explosive mixture with air.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture: Mixture

<table>
<thead>
<tr>
<th>Components</th>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Classification</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Propan-2-ol</td>
<td>67-63-0</td>
<td>Flammable liquids, Category 2</td>
<td>&gt;= 30 &lt; 50</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye irritation, Category 2A</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Specific target organ toxicity - single exposure, Category 3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N-Methyl-2-pyrrolidone</td>
<td>872-50-4</td>
<td>Flammable liquids, Category 4</td>
<td>&gt;= 30 &lt; 50</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute toxicity (Oral),</td>
<td></td>
</tr>
<tr>
<td>Component</td>
<td>SDS Number</td>
<td>Classification and Effects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>------------</td>
<td>---------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poly[ oxy(methyl-1,2-ethanediyl)], α-(1-oxotetradecyl)-ω-(phenylmethoxy)</td>
<td>642443-86-5</td>
<td>Skin irritation, Category 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fluazuron</td>
<td>86811-58-7</td>
<td>Short-term (acute) aquatic hazard, Category 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Long-term (chronic) aquatic hazard, Category 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abamectin (combination of avermectin B1a and avermectin B1b)</td>
<td>71751-41-2</td>
<td>Acute toxicity (Oral), Category 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute toxicity (Inhalation), Category 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute toxicity (Dermal), Category 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reproductive toxicity, Category 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Specific target organ toxicity - repeated exposure (Oral) (Central nervous system), Category 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Short-term (acute) aquatic hazard, Category 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Long-term (chronic) aquatic hazard, Category 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate</td>
<td>2386-87-0</td>
<td>Acute toxicity (Oral), Category 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Skin sensitization, Category 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Short-term (acute) aquatic hazard, Category 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2,6-Di-tert-butyl-p-cresol</td>
<td>128-37-0</td>
<td>Short-term (acute) aquatic hazard, Category 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Long-term (chronic) aquatic hazard, Category 3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SECTION 4. FIRST AID MEASURES

General advice: In the case of accident or if you feel unwell, seek medical advice immediately. When symptoms persist or in all cases of doubt seek medical advice.

If inhaled: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

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.

Most important symptoms and effects, both acute and delayed: Harmful if swallowed or if inhaled. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness. May damage the unborn child. May cause damage to organs through prolonged or repeated exposure.

Protection of first-aiders: First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).

Notes to physician: Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water spray
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media:

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

Hazardous combustion products:
- Carbon oxides
- Nitrogen oxides (NOx)
- Chlorine compounds
- Fluorine compounds

Specific extinguishing methods:
- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Use water spray to cool unopened containers.
- Remove undamaged containers from fire area if it is safe to do so.
- Evacuate area.

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

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:
- Remove all sources of ignition.
- Use personal protective equipment.
- Follow safe handling advice and personal protective equipment recommendations.

Environmental precautions:
- Discharge into the environment must be avoided.
- Prevent further leakage or spillage if safe to do so.
- Prevent spreading over a wide area (e.g., by containment or oil barriers).
- Retain and dispose of contaminated wash water.
- Local authorities should be advised if significant spillages cannot be contained.

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

SECTION 7. HANDLING AND STORAGE

Technical measures:
- See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation:
- If sufficient ventilation is unavailable, use with local exhaust ventilation.
If advised by assessment of the local exposure potential, use only in an area equipped with explosion-proof exhaust ventilation.

Advice on safe handling:
- Do not get on skin or clothing.
- Do not breathe vapors or spray mist.
- Do not swallow.
- 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.
- Already sensitized individuals should consult their physician regarding working with respiratory irritants or sensitizers.
- 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.
- 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.

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

Materials to avoid:
- Do not store with the following product types:
  - Strong oxidizing agents
  - Organic peroxides
  - Flammable solids
  - Pyrophoric liquids
  - Pyrophoric solids
  - Self-heating substances and mixtures
  - Substances and mixtures which in contact with water emit flammable gases
  - Explosives
  - Gases

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Ingredients with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propan-2-ol</td>
<td>67-63-0</td>
<td>LT</td>
<td>310 ppm</td>
<td>BR OEL</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET

Abamectin / Fluazuron Formulation

Version 6.0  Revision Date: 23.03.2020  SDS Number: 800394-00014  Date of last issue: 13.09.2019  Date of first issue: 12.07.2016

Further information: Absorption through the skin, Degree of harmlessness: medium

TWA  200 ppm  ACGIH
STEL  400 ppm  ACGIH

Fluazuron  86811-58-7  TWA  60 µg/m³ (OEB 3)  Internal
Wipe limit  600 µg/100 cm²  Internal

Abamectin (combination of avermectin B1a and avermectin B1b)  71751-41-2  TWA  30 µg/m³ (OEB 3)  Internal
Wipe limit  300 µg/100 cm²  Internal

2,6-Di-tert-butyl-p-cresol  128-37-0  TWA (Inhalable fraction and vapor)  2 mg/m³  ACGIH

### Biological occupational exposure limits

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Biological specimen</th>
<th>Sampling time</th>
<th>Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-Methyl-2-pyrrolidone</td>
<td>872-50-4</td>
<td>5-Hydroxy-N-methyl-2-pyrrolidone</td>
<td>Urine</td>
<td>End of shift (As soon as possible after exposure ceases)</td>
<td>100 mg/l</td>
<td>ACGIH BEI</td>
</tr>
<tr>
<td>Propan-2-ol</td>
<td>67-63-0</td>
<td>Acetone</td>
<td>Urine</td>
<td>End of shift at end of work-week</td>
<td>40 mg/l</td>
<td>ACGIH BEI</td>
</tr>
</tbody>
</table>

### Engineering measures

Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., dripless 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.

### Personal protective equipment

#### Respiratory protection

If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

Filter type: Combined particulates and organic vapor type

Hand protection: Chemical-resistant gloves
Remarks : Consider double gloving. Take note that the product is flammable, which may impact the selection of hand protection.

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.

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 contaminated clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid
Color : No data available
Odor : No data available
Odor Threshold : No data available
pH : No data available
Melting point/freezing point : No data available
Initial boiling point and boiling range : No data available
Flash point : 28 °C
Evaporation rate : 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
Vapor pressure : No data available
Relative vapor density : No data available
Relative density : No data available
Density : No data available
Solubility(ies)
   Water solubility : No data available

Partition coefficient: n-octanol/water : Not applicable
Autoignition temperature : No data available
Decomposition temperature : No data available

Viscosity
   Viscosity, kinematic : No data available

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.
Molecular weight : No data available
Particle size : Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard.
Chemical stability : Stable under normal conditions.
Possibility of hazardous reactions
   : Flammable liquid and vapor.
   Vapors may form explosive mixture with air.
   Can react with strong oxidizing agents.

Conditions to avoid : Heat, flames and sparks.
Incompatible materials : Oxidizing agents
Hazardous decomposition products : No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

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

Acute toxicity

Harmful if swallowed or if inhaled.

Product:

Acute oral toxicity : Acute toxicity estimate: 1.824 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: > 5.000 mg/kg
### 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: vapor
- **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

**Poly[oxy(methyl-1,2-ethanediyl)], α-(1-oxotetradecyl)-ω-(phenylmethoxy)-:**
- **Acute oral toxicity**: LD50 (Rat): > 16,000 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):**
- **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

Poly[oxy(methyl-1,2-ethanediyl)], α-(1-oxotetradecyl)-ω-(phenylmethoxy)-:
Species: Rabbit
Result: Mild skin irritation

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

Abamectin (combination of avermectin B1a and avermectin B1b):
**SAFETY DATA SHEET**

**Abamectin / Fluazuron Formulation**

**Version** 6.0  **Revision Date:** 23.03.2020  **SDS Number:** 800394-00014  **Date of last issue:** 13.09.2019  **Date of first issue:** 12.07.2016

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Result:</strong></td>
<td>No skin irritation</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Method:</strong></td>
<td>OECD Test Guideline 404</td>
</tr>
<tr>
<td><strong>Result:</strong></td>
<td>No skin irritation</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Method:</strong></td>
<td>OECD Test Guideline 404</td>
</tr>
<tr>
<td><strong>Result:</strong></td>
<td>No skin irritation</td>
</tr>
<tr>
<td><strong>Remarks:</strong></td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

**Serious eye damage/eye irritation**

| Causes serious eye irritation. |

**Components:**

**Propan-2-ol:**

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Result:</strong></td>
<td>Irritation to eyes, reversing within 21 days</td>
</tr>
</tbody>
</table>

**N-Methyl-2-pyrrolidone:**

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Result:</strong></td>
<td>Irritation to eyes, reversing within 21 days</td>
</tr>
</tbody>
</table>

**Poly[oxy(methyl-1,2-ethanediyl)], α-(1-oxotetradecyl)-ω-(phenylmethoxy)-:**

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Result:</strong></td>
<td>No eye irritation</td>
</tr>
</tbody>
</table>

**Fluazuron:**

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Result:</strong></td>
<td>Mild eye irritation</td>
</tr>
<tr>
<td><strong>Method:</strong></td>
<td>OECD Test Guideline 405</td>
</tr>
</tbody>
</table>

**Abamectin (combination of avermectin B1a and avermectin B1b):**

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Result:</strong></td>
<td>Mild eye irritation</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Result:</strong></td>
<td>No eye irritation</td>
</tr>
<tr>
<td><strong>Method:</strong></td>
<td>OECD Test Guideline 405</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Result:</strong></td>
<td>No eye irritation</td>
</tr>
<tr>
<td><strong>Method:</strong></td>
<td>OECD Test Guideline 405</td>
</tr>
</tbody>
</table>
Remarks: Based on data from similar materials

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

Not classified based on available information.

Components:

Propan-2-ol:

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Buehler Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routes of exposure</td>
<td>Skin contact</td>
</tr>
<tr>
<td>Species</td>
<td>Guinea pig</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 406</td>
</tr>
<tr>
<td>Result</td>
<td>negative</td>
</tr>
</tbody>
</table>

N-Methyl-2-pyrrolidone:

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Local lymph node assay (LLNA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routes of exposure</td>
<td>Skin contact</td>
</tr>
<tr>
<td>Species</td>
<td>Mouse</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 429</td>
</tr>
<tr>
<td>Result</td>
<td>negative</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

Poly[oxy(methyl-1,2-ethanediyl)], α-(1-oxotetradecyl)-ω-(phenylmethoxy)-:

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Human repeat insult patch test (HRIPT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routes of exposure</td>
<td>Skin contact</td>
</tr>
<tr>
<td>Result</td>
<td>negative</td>
</tr>
</tbody>
</table>

Fluazuron:

<table>
<thead>
<tr>
<th>Routes of exposure</th>
<th>Skin contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species</td>
<td>Guinea pig</td>
</tr>
<tr>
<td>Result</td>
<td>negative</td>
</tr>
</tbody>
</table>

Abamectin (combination of avermectin B1a and avermectin B1b):

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Maximization Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routes of exposure</td>
<td>Skin contact</td>
</tr>
<tr>
<td>Result</td>
<td>Not a skin sensitizer.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Maximization Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routes of exposure</td>
<td>Skin contact</td>
</tr>
<tr>
<td>Species</td>
<td>Guinea pig</td>
</tr>
<tr>
<td>Result</td>
<td>positive</td>
</tr>
</tbody>
</table>

Assessment: Probability or evidence of skin sensitization in humans
SAFETY DATA SHEET

Abamectin / Fluazuron Formulation

Version 6.0  Revision Date: 23.03.2020  SDS Number: 800394-00014  Date of last issue: 13.09.2019
Date of first issue: 12.07.2016

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

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Routes of exposure</th>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human repeat insult patch test (HRIPT)</td>
<td>Skin contact</td>
<td>Humans</td>
<td>negative</td>
</tr>
</tbody>
</table>

Germ cell mutagenicity

Not classified based on available information.

Components:

Propan-2-ol:

<table>
<thead>
<tr>
<th>Genotoxicity in vitro</th>
<th>Test Type: Bacterial reverse mutation assay (AMES)</th>
<th>Result: negative</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Test Type: In vitro mammalian cell gene mutation test</td>
<td>Result: negative</td>
</tr>
</tbody>
</table>

N-Methyl-2-pyrrolidone:

<table>
<thead>
<tr>
<th>Genotoxicity in vitro</th>
<th>Test Type: Bacterial reverse mutation assay (AMES)</th>
<th>Method: OECD Test Guideline 471</th>
<th>Result: negative</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Test Type: In vitro mammalian cell gene mutation test</td>
<td>Method: OECD Test Guideline 476</td>
<td>Result: negative</td>
</tr>
<tr>
<td></td>
<td>Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)</td>
<td>Method: OECD Test Guideline 474</td>
<td>Result: negative</td>
</tr>
</tbody>
</table>

Poly[oxy(methyl-1,2-ethanediyl)], α-(1-oxotetradecyl)-ω-(phenylmethoxy):

<table>
<thead>
<tr>
<th>Genotoxicity in vitro</th>
<th>Test Type: Bacterial reverse mutation assay (AMES)</th>
</tr>
</thead>
</table>

14 / 29
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
Result: negative

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

Abamectin (combination of avermectin B1a and avermectin B1b):

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:** Inhalation (vapor)
- **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

**Species**
- **Application Route:** Inhalation (vapor)
- **Exposure time:** 2 Years
- **Method:** OECD Test Guideline 453
- **Result:** negative

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

**Species**
- **Application Route:** Ingestion
- **Exposure time:** 2 Years
- **Result:** negative
Abamectin (combination of avermectin B1a and avermectin B1b):

<table>
<thead>
<tr>
<th>Species</th>
<th>Rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Route</td>
<td>Oral</td>
</tr>
<tr>
<td>Exposure time</td>
<td>105 weeks</td>
</tr>
<tr>
<td>Result</td>
<td>negative</td>
</tr>
</tbody>
</table>

Species: Mouse
Application Route: Oral
Exposure time: 93 weeks
Result: negative

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

<table>
<thead>
<tr>
<th>Species</th>
<th>Rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Route</td>
<td>Ingestion</td>
</tr>
<tr>
<td>Exposure time</td>
<td>22 Months</td>
</tr>
<tr>
<td>Result</td>
<td>negative</td>
</tr>
</tbody>
</table>

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

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

Test Type: Embryo-fetal 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  
Species: Rat  
Application Route: Ingestion  
Result: negative

#### Effects on fetal development  
: Test Type: Embryo-fetal development  
Species: Rat  
Application Route: Ingestion  
Result: negative  

: Test Type: Embryo-fetal development  
Species: Rabbit  
Application Route: Ingestion  
Method: OECD Test Guideline 414  
Result: negative

### Abamectin (combination of avermectin B1a and avermectin B1b):

#### 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 fetal development  
: Test Type: Embryo-fetal 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-fetal 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

: Test Type: Development  
Species: Rat
Reproductive toxicity - Assessment: Some evidence of adverse effects on sexual function and fertility, based on animal experiments. Some evidence of adverse effects on development, based on animal experiments.

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

Effects on fetal development
- Test Type: Embryo-fetal 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 fetal development
- Test Type: Embryo-fetal 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 (Central nervous system) through prolonged or repeated exposure.

Components:

Abamectin (combination of avermectin B1a and avermectin B1b):

Routes of exposure: 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:

<table>
<thead>
<tr>
<th>Species</th>
<th>Rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>12.5 mg/l</td>
</tr>
<tr>
<td>Application Route</td>
<td>inhalation (vapor)</td>
</tr>
<tr>
<td>Exposure time</td>
<td>104 Weeks</td>
</tr>
</tbody>
</table>

#### N-Methyl-2-pyrrolidone:

<table>
<thead>
<tr>
<th>Species</th>
<th>Rat, male</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>169 mg/kg</td>
</tr>
<tr>
<td>LOAEL</td>
<td>433 mg/kg</td>
</tr>
<tr>
<td>Application Route</td>
<td>Ingestion</td>
</tr>
<tr>
<td>Exposure time</td>
<td>90 Days</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 408</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Species</th>
<th>Rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>0.5 mg/l</td>
</tr>
<tr>
<td>LOAEL</td>
<td>1 mg/l</td>
</tr>
<tr>
<td>Application Route</td>
<td>inhalation (dust/mist/fume)</td>
</tr>
<tr>
<td>Exposure time</td>
<td>96 Days</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 413</td>
</tr>
</tbody>
</table>

#### Fluazuron:

<table>
<thead>
<tr>
<th>Species</th>
<th>Rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOAEL</td>
<td>240 mg/kg</td>
</tr>
<tr>
<td>Application Route</td>
<td>Ingestion</td>
</tr>
<tr>
<td>Exposure time</td>
<td>13 Weeks</td>
</tr>
<tr>
<td>Target Organs</td>
<td>Liver, Thyroid, Pituitary gland</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Species</th>
<th>Rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>10 mg/kg</td>
</tr>
<tr>
<td>LOAEL</td>
<td>100 mg/kg</td>
</tr>
<tr>
<td>Application Route</td>
<td>Skin contact</td>
</tr>
<tr>
<td>Exposure time</td>
<td>3 Weeks</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Species</th>
<th>Dog</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>7.5 mg/kg</td>
</tr>
<tr>
<td>LOAEL</td>
<td>110 mg/kg</td>
</tr>
<tr>
<td>Application Route</td>
<td>Ingestion</td>
</tr>
<tr>
<td>Exposure time</td>
<td>52 Weeks</td>
</tr>
</tbody>
</table>
Target Organs: Liver

**Abamectin (combination of avermectin B1a and avermectin B1b):**

- **Species**: Rat
- **NOAEL**: 1.5 mg/kg
- **Application Route**: Oral
- **Exposure time**: 24 Months
- **Target Organs**: Central nervous system
- **Symptoms**: Tremors, ataxia

- **Species**: Mouse
- **NOAEL**: 4.0 mg/kg
- **Application Route**: Oral
- **Exposure time**: 24 Months
- **Target Organs**: Central nervous system
- **Symptoms**: Tremors, ataxia

- **Species**: Dog
- **NOAEL**: 0.25 mg/kg
- **LOAEL**: 0.5 mg/kg
- **Application Route**: Oral
- **Exposure time**: 53 Weeks
- **Target Organs**: Central nervous system
- **Symptoms**: Tremors, weight loss
- **Remarks**: mortality observed

- **Species**: Monkey
- **NOAEL**: 1.0 mg/kg
- **Application Route**: Oral
- **Exposure time**: 14 Weeks
- **Target Organs**: Central nervous system

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

- **Species**: Rat
- **NOAEL**: 25 mg/kg
- **Application Route**: Ingestion
- **Exposure time**: 22 Months

**Aspiration toxicity**

- Not classified based on available information.

**Experience with human exposure**

**Components:**

**N-Methyl-2-pyrrolidone:**

- **Skin contact**: Symptoms: Skin irritation

**Abamectin (combination of avermectin B1a and avermectin B1b):**

- **Ingestion**: Symptoms: May cause, Tremors, Diarrhea, central nervous system effects, Salivation, tearing
SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

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 (Oncorhynchus 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
  Exposure time: 24 h
  Method: DIN 38412

- **Toxicity to algae/aquatic plants**: ErC50 (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 daphnia and other aquatic invertebrates (Chronic toxicity)**: NOEC (Daphnia magna (Water flea)): 12,5 mg/l
  Exposure time: 21 d
  Method: OECD Test Guideline 211

- **Toxicity to microorganisms**: EC50: > 600 mg/l
  Exposure time: 30 min
  Method: ISO 8192

Poly[oxy(methyl-1,2-ethanediyl)], α-(1-oxotetradecyl)-ω-(phenylmethoxy)-:

- **Toxicity to fish**: LC50: 540 mg/l
  Exposure time: 96 h
  Test substance: Water Accommodated Fraction

- **Toxicity to daphnia and other aquatic invertebrates**: EC50 (Ceriodaphnia dubia (water flea)): 221 mg/l
  Exposure time: 48 h
  Test substance: Water Accommodated Fraction

- **Toxicity to algae/aquatic plants**: NOEC (Selenastrum capricornutum (fresh water algae)): 78 mg/l
  Exposure time: 72 h
  Method: OECD Test Guideline 201
### Fluazuron:

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to fish</td>
<td>LC50 (Cyprinus carpio (Carp)): &gt; 9.1 mg/l</td>
</tr>
<tr>
<td></td>
<td>Exposure time: 96 h</td>
</tr>
<tr>
<td>Toxicity to daphnia and other</td>
<td>EC50 (Daphnia sp. (Water flea)): 0.0006 mg/l</td>
</tr>
<tr>
<td>aquatic invertebrates</td>
<td>Exposure time: 48 h</td>
</tr>
<tr>
<td>Toxicity to algae/aquatic</td>
<td>NOEC (Raphidocelis subcapitata (freshwater green alga)): 27.9 mg/l</td>
</tr>
<tr>
<td>plants</td>
<td>Exposure time: 72 h</td>
</tr>
<tr>
<td>M-Factor (Acute aquatic toxicity)</td>
<td>1.000</td>
</tr>
<tr>
<td>M-Factor (Chronic aquatic toxicity)</td>
<td>1.000</td>
</tr>
</tbody>
</table>

### Abamectin (combination of avermectin B1a and avermectin B1b):

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to fish</td>
<td>LC50 (Oncorhynchus mykiss (rainbow trout)): 3.2 µg/l</td>
</tr>
<tr>
<td></td>
<td>Exposure time: 96 h</td>
</tr>
<tr>
<td></td>
<td>LC50 (Lepomis macrochirus (Bluegill sunfish)): 9.6 µg/l</td>
</tr>
<tr>
<td></td>
<td>Exposure time: 96 h</td>
</tr>
<tr>
<td></td>
<td>LC50 (Ictalurus punctatus (channel catfish)): 24 µg/l</td>
</tr>
<tr>
<td></td>
<td>Exposure time: 96 h</td>
</tr>
<tr>
<td></td>
<td>LC50 (Cyprinus carpio (Carp)): 42 µg/l</td>
</tr>
<tr>
<td></td>
<td>Exposure time: 96 h</td>
</tr>
<tr>
<td></td>
<td>LC50 (Cyprinodon variegatus (sheepshead minnow)): 15 µg/l</td>
</tr>
<tr>
<td></td>
<td>Exposure time: 96 h</td>
</tr>
<tr>
<td>Toxicity to daphnia and other</td>
<td>EC50 (Americamysis): 0.022 µg/l</td>
</tr>
<tr>
<td>aquatic invertebrates</td>
<td>Exposure time: 96 h</td>
</tr>
<tr>
<td></td>
<td>EC50 (Daphnia magna (Water flea)): 0.34 µg/l</td>
</tr>
<tr>
<td></td>
<td>Exposure time: 48 h</td>
</tr>
<tr>
<td>Toxicity to algae/aquatic</td>
<td>EC50 (Pseudokirchneriella subcapitata (green algae)): 100 mg/l</td>
</tr>
<tr>
<td>plants</td>
<td>Exposure time: 72 h</td>
</tr>
<tr>
<td>M-Factor (Acute aquatic toxicity)</td>
<td>10.000</td>
</tr>
<tr>
<td>Toxicity to fish (Chronic toxicity)</td>
<td>NOEC (Pimephales promelas (fathead minnow)): 0.52 µg/l</td>
</tr>
<tr>
<td></td>
<td>Exposure time: 32 d</td>
</tr>
<tr>
<td>Toxicity to daphnia and other</td>
<td>NOEC (Daphnia magna (Water flea)): 0.03 µg/l</td>
</tr>
<tr>
<td>aquatic invertebrates (Chronic toxicity)</td>
<td>Exposure time: 21 d</td>
</tr>
<tr>
<td></td>
<td>NOEC (Mysidopsis bahia (opossum shrimp)): 0.0035 µg/l</td>
</tr>
<tr>
<td></td>
<td>Exposure time: 28 d</td>
</tr>
<tr>
<td>M-Factor (Chronic aquatic toxicity)</td>
<td>10.000</td>
</tr>
<tr>
<td>Toxicity to microorganisms</td>
<td>EC50: &gt; 1.000 mg/l</td>
</tr>
<tr>
<td>----------------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>Exposure time:</td>
<td>3 h</td>
</tr>
<tr>
<td>Test Type:</td>
<td>Respiration inhibition</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Toxicity to fish</th>
<th>LC50 (Oncorhynchus mykiss (rainbow trout)): 24 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time</td>
<td>96 h</td>
</tr>
<tr>
<td>Method:</td>
<td>OECD Test Guideline 203</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Toxicity to daphnia and other aquatic invertebrates</th>
<th>EC50 (Daphnia magna (Water flea)): 40 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time</td>
<td>48 h</td>
</tr>
<tr>
<td>Method: OECD Test Guideline 202</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Toxicity to algae/aquatic plants</th>
<th>ErC50 (Selenastrum capricornutum (green algae)): &gt; 110 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time</td>
<td>72 h</td>
</tr>
<tr>
<td>Method: OECD Test Guideline 201</td>
<td></td>
</tr>
<tr>
<td>NOEC (Selenastrum capricornutum (green algae)): 30 mg/l</td>
<td></td>
</tr>
<tr>
<td>Exposure time</td>
<td>72 h</td>
</tr>
<tr>
<td>Method: OECD Test Guideline 201</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Toxicity to microorganisms</th>
<th>EC10 (Natural microorganism): 409 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time</td>
<td>3 h</td>
</tr>
<tr>
<td>Method: OECD Test Guideline 209</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Toxicity to fish</th>
<th>LC50 (Danio rerio (zebra fish)): &gt; 0,57 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time</td>
<td>96 h</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Toxicity to daphnia and other aquatic invertebrates</th>
<th>EC50 (Daphnia magna (Water flea)): 0,48 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time</td>
<td>48 h</td>
</tr>
<tr>
<td>Method: OECD Test Guideline 202</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Toxicity to algae/aquatic plants</th>
<th>ErC50 (Pseudokirchneriella subcapitata (green algae)): &gt; 0,24 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time</td>
<td>72 h</td>
</tr>
<tr>
<td>Method: OECD Test Guideline 201</td>
<td></td>
</tr>
<tr>
<td>NOEC (Pseudokirchneriella subcapitata (green algae)): 0,24 mg/l</td>
<td></td>
</tr>
<tr>
<td>Exposure time</td>
<td>72 h</td>
</tr>
<tr>
<td>Method: OECD Test Guideline 201</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>M-Factor (Acute aquatic toxicity)</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to fish (Chronic toxicity)</td>
<td>NOEC (Oryzias latipes (Japanese medaka)): 0,053 mg/l</td>
</tr>
<tr>
<td>Exposure time</td>
<td>30 d</td>
</tr>
<tr>
<td>Method: OECD Test Guideline 210</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)</th>
<th>NOEC (Daphnia magna (Water flea)): 0,316 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time</td>
<td>21 d</td>
</tr>
<tr>
<td>M-Factor (Chronic aquatic toxicity)</td>
<td>1</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET
Abamectin / Fluazuron Formulation

Version
Revision Date:
SDS Number:
Date of last issue:
Date of first issue:

6.0
23.03.2020
800394-00014
13.09.2019
12.07.2016

Toxicity

Toxicity to microorganisms: EC50: > 10.000 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

Persistence and degradability

Components:

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

Bioaccumulative potential

Components:

Propan-2-ol:
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):

<table>
<thead>
<tr>
<th>Bioaccumulation</th>
<th>Bioconcentration factor (BCF): 52</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>log Pow: 4</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Bioaccumulation</th>
<th>Species: Cyprinus carpio (Carp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioconcentration factor (BCF):</td>
<td>330 - 1.800</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>log Pow: 5,1</td>
</tr>
</tbody>
</table>

Mobility in soil

Components:

Abamectin (combination of avermectin B1a and avermectin B1b):

Distribution among environmental compartments: log Koc: > 3,6

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues: Dispose of in accordance with local regulations.
Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal. Empty containers retain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death. If not otherwise specified: Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG
UN number: UN 1993
Proper shipping name: FLAMMABLE LIQUID, N.O.S. (Propan-2-ol)
Class: 3
Packing group: III
Labels: 3

IATA-DGR
UN/ID No.: UN 1993
Proper shipping name: Flammable liquid, n.o.s.
### SAFETY DATA SHEET

**Abamectin / Fluazuron 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>

**Class:** 3  
**Packing group:** III  
**Labels:** Flammable Liquids  
**Packing instruction (cargo aircraft):** 366  
**Packing instruction (passenger aircraft):** 355  

**IMDG-Code**  
**UN number:** UN 1993  
**Proper shipping name:** FLAMMABLE LIQUID, N.O.S.  
(Propan-2-ol, Fluazuron, Abamectin (combination of avermectin B1a and avermectin B1b))  
**Class:** 3  
**Packing group:** III  
**Labels:** 3  
**EmS Code:** F-E, S-E  
**Marine pollutant:** yes

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**  
Not applicable for product as supplied.

**Domestic regulation**

**ANTT**  
**UN number:** UN 1993  
**Proper shipping name:** FLAMMABLE LIQUID, N.O.S.  
(Propan-2-ol)  
**Class:** 3  
**Packing group:** III  
**Labels:** 3  
**Hazard Identification Number:** 30

**Special precautions for user**  
The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

### SECTION 15. REGULATORY INFORMATION

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

**National List of Carcinogenic Agents for Humans - (LINACH)**  
: Not applicable

**Brazil. List of chemicals controlled by the Federal Police**  
: Propan-2-ol

**International Regulations**

**The ingredients of this product are reported in the following inventories:**

**AICS**  
: not determined
SECTION 16. OTHER INFORMATION

Further 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 other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)
BR OEL : Brazil. NR 15 - Unhealthy activities and operations
ACGIH / TWA : 8-hour, time-weighted average
ACGIH / STEL : Short-term exposure limit
BR OEL / LT : Up to 48 hours /week

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50% of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System
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.

BR / Z8