## SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Product name</th>
<th>Abamectin / Fluazuron Formulation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Manufacturer or supplier’s details</strong></td>
<td></td>
</tr>
<tr>
<td>Company</td>
<td>MSD</td>
</tr>
<tr>
<td>Address</td>
<td>26 Talavera Road, Talavera Corp Centre, Macquarie Park New South Wales, 2113 Australia</td>
</tr>
<tr>
<td>Telephone</td>
<td>(61)-02-8988-8000</td>
</tr>
<tr>
<td>Emergency telephone number</td>
<td>(61)-02-8988-8000</td>
</tr>
<tr>
<td>E-mail address</td>
<td><a href="mailto:EHSDATASTEWARD@msd.com">EHSDATASTEWARD@msd.com</a></td>
</tr>
<tr>
<td>Telefax</td>
<td>908-735-1496</td>
</tr>
<tr>
<td><strong>Recommended use of the chemical and restrictions on use</strong></td>
<td>Veterinary product</td>
</tr>
</tbody>
</table>

## SECTION 2. HAZARDS IDENTIFICATION

### GHS Classification

| Flammable liquids | Category 3 |
| Acute toxicity (Inhalation) | Category 4 |
| Serious eye damage/eye irritation | Category 2A |
| Skin sensitisation | 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) |

### GHS label elements

| Hazard pictograms | ![Flammable Liquid](image), ![Person with Headache](image), ![Exclamation](image) |
| Signal word       | Danger |
| Hazard statements | H226 Flammable liquid and vapour. H317 May cause an allergic skin reaction. |
Precautionary statements:

**Prevention:**
- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
- P233 Keep container tightly closed.
- P241 Use explosion-proof electrical/ventilating/lighting equipment.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P260 Do not breathe mist or vapours.
- P264 Wash skin thoroughly after handling.
- P271 Use only outdoors or in a well-ventilated area.
- P272 Contaminated work clothing should not be allowed out of the workplace.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P281 Use personal protective equipment as required.

**Response:**
- P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P308 + P313 IF exposed or concerned: Get medical advice/attention.
- P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
- P337 + P313 If eye irritation persists: Get medical advice/attention.
- P363 Wash contaminated clothing before reuse.

**Storage:**
- P403 + P235 Store in a well-ventilated place. Keep cool.
- P405 Store locked up.

**Disposal:**
- P501 Dispose of contents/container to an approved waste disposal plant.
SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propan-2-ol</td>
<td>67-63-0</td>
<td>&gt;= 30 - &lt; 60</td>
</tr>
<tr>
<td>N-Methyl-2-pyrrolidone</td>
<td>872-50-4</td>
<td>&gt;= 30 - &lt; 60</td>
</tr>
<tr>
<td>Fluazuron</td>
<td>86811-58-7</td>
<td>&lt; 10</td>
</tr>
<tr>
<td>Abamectin (combination of avermectin B1a and avermectin B1b)</td>
<td>71751-41-2</td>
<td>&gt;= 1 - &lt; 3</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>&gt;= 1 - &lt; 10</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:
- Inhale, 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.
- Remove contaminated clothing and shoes.
- Get medical attention.
- Wash clothing before reuse.
- Thoroughly clean shoes before reuse.

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

If swallowed:
- If swallowed, DO NOT induce vomiting.
- Get medical attention.
- Rinse mouth thoroughly with water.
- Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed:
- 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.

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. FIREFIGHTING MEASURES

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

Unsuitable extinguishing media: High volume water jet

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

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

Hazchem Code: •3Y

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

### SECTION 7. HANDLING AND STORAGE

<table>
<thead>
<tr>
<th>Technical measures</th>
<th>See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local/Total ventilation</td>
<td>If sufficient ventilation is unavailable, use with local exhaust ventilation.</td>
</tr>
<tr>
<td></td>
<td>If advised by assessment of the local exposure potential, use only in an area equipped with explosion-proof exhaust ventilation.</td>
</tr>
<tr>
<td>Advice on safe handling</td>
<td>Do not get on skin or clothing.</td>
</tr>
<tr>
<td></td>
<td>Do not breathe vapours or spray mist.</td>
</tr>
<tr>
<td></td>
<td>Do not swallow.</td>
</tr>
<tr>
<td></td>
<td>Do not get in eyes.</td>
</tr>
<tr>
<td></td>
<td>Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment</td>
</tr>
<tr>
<td></td>
<td>Non-sparking tools should be used.</td>
</tr>
<tr>
<td></td>
<td>Keep container tightly closed.</td>
</tr>
<tr>
<td></td>
<td>Already sensitised individuals should consult their physician regarding working with respiratory irritants or sensitisers.</td>
</tr>
<tr>
<td></td>
<td>Keep away from heat and sources of ignition.</td>
</tr>
<tr>
<td></td>
<td>Take precautionary measures against static discharges.</td>
</tr>
<tr>
<td></td>
<td>Take care to prevent spills, waste and minimize release to the environment.</td>
</tr>
<tr>
<td>Hygiene measures</td>
<td>If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.</td>
</tr>
<tr>
<td></td>
<td>When using do not eat, drink or smoke.</td>
</tr>
<tr>
<td></td>
<td>Wash contaminated clothing before re-use.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>Conditions for safe storage</td>
<td>Keep in properly labelled containers.</td>
</tr>
<tr>
<td></td>
<td>Store locked up.</td>
</tr>
<tr>
<td></td>
<td>Keep tightly closed.</td>
</tr>
<tr>
<td></td>
<td>Keep in a cool, well-ventilated place.</td>
</tr>
<tr>
<td></td>
<td>Store in accordance with the particular national regulations.</td>
</tr>
<tr>
<td></td>
<td>Keep away from heat and sources of ignition.</td>
</tr>
<tr>
<td>Materials to avoid</td>
<td>Do not store with the following product types:</td>
</tr>
<tr>
<td></td>
<td>Self-reactive substances and mixtures</td>
</tr>
<tr>
<td></td>
<td>Organic peroxides</td>
</tr>
<tr>
<td></td>
<td>Oxidizing agents</td>
</tr>
<tr>
<td></td>
<td>Flammable gases</td>
</tr>
<tr>
<td></td>
<td>Pyrophoric liquids</td>
</tr>
<tr>
<td></td>
<td>Pyrophoric solids</td>
</tr>
<tr>
<td></td>
<td>Self-heating substances and mixtures</td>
</tr>
<tr>
<td></td>
<td>Poisonous gases</td>
</tr>
</tbody>
</table>
SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components 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>TWA</td>
<td>400 ppm 983 mg/m3</td>
<td>AU OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>500 ppm 1,230 mg/m3</td>
<td>AU OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>200 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>400 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td>N-Methyl-2-pyrrolidone</td>
<td>872-50-4</td>
<td>TWA</td>
<td>25 ppm 103 mg/m3</td>
<td>AU OEL</td>
</tr>
</tbody>
</table>

Further information: Skin absorption

<table>
<thead>
<tr>
<th></th>
<th>Value type</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-Methyl-2-pyrrolidone</td>
<td>STEL</td>
<td>75 ppm 309 mg/m3</td>
<td>AU OEL</td>
</tr>
</tbody>
</table>

Further information: Skin absorption

<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>Fluazuron</td>
<td>86811-58-7</td>
<td>TWA</td>
<td></td>
<td></td>
<td>60 µg/m3 (OEB 3)</td>
<td>Internal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wipe limit</td>
<td></td>
<td></td>
<td>600 µg/ 100cm²</td>
<td>Internal</td>
</tr>
<tr>
<td>Abamectin (combination of avermectin B1a and avermec-tin B1b)</td>
<td>71751-41-2</td>
<td>TWA</td>
<td></td>
<td></td>
<td>30 µg/m3 (OEB 3)</td>
<td>Internal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wipe limit</td>
<td></td>
<td></td>
<td>300 µg/100 cm²</td>
<td>Internal</td>
</tr>
</tbody>
</table>

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 vapour type
  - **Hand protection**: Chemical-resistant gloves

**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
- **Colour**: No data available
- **Odour**: No data available
- **Odour Threshold**: No data available
- **pH**: No data available
- **Melting point/freezing point**: No data available
- **Initial boiling point and boiling range**: No data available
- **Flash point**: 28 °C
- **Evaporation rate**: No data available
- **Flammability (solid, gas)**: Not applicable
- **Flammability (liquids)**: Not applicable
- **Upper explosion limit / Upper**: No data available
### SECTION 10. STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactivity</td>
<td>Not classified as a reactivity hazard.</td>
</tr>
<tr>
<td>Chemical stability</td>
<td>Stable under normal conditions.</td>
</tr>
<tr>
<td>Possibility of hazardous reactions</td>
<td>Flammable liquid and vapour. Vapours may form explosive mixture with air. Can react with strong oxidizing agents.</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>Heat, flames and sparks.</td>
</tr>
<tr>
<td>Incompatible materials</td>
<td>Oxidizing agents</td>
</tr>
<tr>
<td>Hazardous decomposition products</td>
<td>No hazardous decomposition products are known.</td>
</tr>
</tbody>
</table>

### SECTION 11. TOXICOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Exposure routes</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td></td>
</tr>
<tr>
<td>Skin contact</td>
<td></td>
</tr>
<tr>
<td>Ingestion</td>
<td></td>
</tr>
<tr>
<td>Eye contact</td>
<td></td>
</tr>
</tbody>
</table>
### Acute toxicity
Harmful if inhaled.

**Product:**

<table>
<thead>
<tr>
<th>Acute oral toxicity</th>
<th>Acute toxicity estimate: &gt; 2,000 mg/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method:</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Acute inhalation toxicity</th>
<th>Acute toxicity estimate: 2.06 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time:</td>
<td>4 h</td>
</tr>
<tr>
<td>Test atmosphere:</td>
<td>dust/mist</td>
</tr>
<tr>
<td>Method:</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Acute dermal toxicity</th>
<th>Acute toxicity estimate: &gt; 2,000 mg/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method:</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

**Components:**

**Propan-2-ol:**

<table>
<thead>
<tr>
<th>Acute oral toxicity</th>
<th>LD50 (Rat): &gt; 5,000 mg/kg</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Acute inhalation toxicity</th>
<th>LC50 (Rat): &gt; 25 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time:</td>
<td>6 h</td>
</tr>
<tr>
<td>Test atmosphere:</td>
<td>vapour</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Acute dermal toxicity</th>
<th>LD50 (Rabbit): &gt; 5,000 mg/kg</th>
</tr>
</thead>
</table>

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

<table>
<thead>
<tr>
<th>Acute oral toxicity</th>
<th>LD50 (Rat): 4,150 mg/kg</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Acute inhalation toxicity</th>
<th>LC50 (Rat): &gt; 5.1 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time:</td>
<td>4 h</td>
</tr>
<tr>
<td>Test atmosphere:</td>
<td>dust/mist</td>
</tr>
<tr>
<td>Method:</td>
<td>OECD Test Guideline 403</td>
</tr>
<tr>
<td>Assessment:</td>
<td>The substance or mixture has no acute inhalation toxicity</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Acute dermal toxicity</th>
<th>LD50 (Rat): &gt; 5,000 mg/kg</th>
</tr>
</thead>
</table>

**Fluazuron:**

<table>
<thead>
<tr>
<th>Acute oral toxicity</th>
<th>LD50 (Rat): &gt; 5,000 mg/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method:</td>
<td>OECD Test Guideline 401</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Acute inhalation toxicity</th>
<th>LC50 (Rat): &gt; 6.0 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time:</td>
<td>4 h</td>
</tr>
<tr>
<td>Test atmosphere:</td>
<td>dust/mist</td>
</tr>
<tr>
<td>Method:</td>
<td>OECD Test Guideline 403</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Acute dermal toxicity</th>
<th>LD50 (Rat): &gt; 2,000 mg/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method:</td>
<td>OECD Test Guideline 402</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Acute oral toxicity</th>
<th>LD50 (Rat): 24 mg/kg</th>
</tr>
</thead>
</table>
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

Skin corrosion/irritation

Not classified based on available information.

Components:

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

N-Methyl-2-pyrrolidone:
Species: Rabbit
Result: No skin irritation

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

Abamectin (combination of avermectin B1a and avermectin B1b):
Species: Rabbit
Result: No skin irritation
SAFETY DATA SHEET

Abamectin / Fluazuron Formulation

Version 3.1
Revision Date: 09/13/2019
SDS Number: 800392-00013
Date of last issue: 24.04.2019
Date of first issue: 12.07.2016

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

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:
Result : Irritation to eyes, reversing within 21 days
Remarks : Based on harmonised classification in EU regulation 1272/2008, Annex VI

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

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

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

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):
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

Chronic toxicity
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

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

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
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Species: Mouse
Application Route: Intraperitoneal injection
Result: negative

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

Carcinogenicity
Not classified based on available information.

Components:

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

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

Species : Mouse
Application Route : Ingestion
Exposure time : 2 Years
Result : negative

Abamectin (combination of avermectin B1a and avermectin B1b):
Species : Rat
Application Route : Oral
Exposure time : 105 weeks
Result : negative

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

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

Method: OECD Test Guideline 416
Result: negative

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
Species: Rat
Application Route: Ingestion
Result: negative

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

Application Route: Ingestion
Method: OECD Test Guideline 414
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 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

Test Type: Development
- Species: Rat
- Application Route: Oral
- Developmental Toxicity: LOAEL: 1.6 mg/kg body weight
- Result: Teratogenic effects

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 foetal development:
- Test Type: Embryo-foetal development
- Species: Rat
- Application Route: Ingestion
- Method: OECD Test Guideline 414
- 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.
Remarks : Based on harmonised classification in EU regulation 1272/2008, Annex VI

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):
Exposure routes : Ingestion
Target Organs : Central nervous system
Assessment : Causes damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Components:

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

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

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):**
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

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

**Experience with human exposure**

**Components:**

**Abamectin (combination of avermectin B1a and avermectin B1b):**
Ingestion: Symptoms: May cause, Tremors, Diarrhoea, central nervous system effects, Salivation, tearing
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Abamectin / Fluazuron Formulation

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

Fluazuron:
Toxicity to fish : LC50 (Cyprinus carpio (Carp)): > 9.1 mg/l
Exposure time: 96 h
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

Abamectin (combination of avermectin B1a and avermectin B1b):
Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 3.2 µg/l
Exposure time: 96 h
### 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>

**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**

<table>
<thead>
<tr>
<th>Test Type</th>
<th>EC50 (Americamysis): 0.022 µg/l</th>
<th>Exposure time: 96 h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EC50 (Daphnia magna (Water flea)): 0.34 µg/l</td>
<td>Exposure time: 48 h</td>
</tr>
</tbody>
</table>

**Toxicity to algae/aquatic plants**

<table>
<thead>
<tr>
<th>Test Type</th>
<th>EC50 (Pseudokirchneriella subcapitata (green algae)): 100 mg/l</th>
<th>Exposure time: 72 h</th>
</tr>
</thead>
</table>

**Toxicity to fish (Chronic toxicity)**

<table>
<thead>
<tr>
<th>Test Type</th>
<th>NOEC (Pimephales promelas (fathead minnow)): 0.52 µg/l</th>
<th>Exposure time: 32 d</th>
</tr>
</thead>
</table>

**Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)**

<table>
<thead>
<tr>
<th>Test Type</th>
<th>NOEC (Daphnia magna (Water flea)): 0.03 µg/l</th>
<th>Exposure time: 21 d</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NOEC (Mysidopsis bahia (opossum shrimp)): 0.0035 µg/l</td>
<td>Exposure time: 28 d</td>
</tr>
</tbody>
</table>

**Toxicity to microorganisms**

<table>
<thead>
<tr>
<th>Test Type</th>
<th>EC50: &gt; 1,000 mg/l</th>
<th>Exposure time: 3 h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Test Type: Respiration inhibition</td>
<td></td>
</tr>
</tbody>
</table>

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

**Toxicity to fish**

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

**Toxicity to daphnia and other aquatic invertebrates**

<table>
<thead>
<tr>
<th>Test Type</th>
<th>EC50 (Daphnia magna (Water flea)): 40 mg/l</th>
<th>Exposure time: 48 h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Method: OECD Test Guideline 202</td>
<td></td>
</tr>
</tbody>
</table>

**Toxicity to algae/aquatic plants**

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

**Toxicity to microorganisms**

<table>
<thead>
<tr>
<th>Test Type</th>
<th>EC10 (Natural microorganism): 409 mg/l</th>
<th>Exposure time: 3 h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Test Type: Respiration inhibition</td>
<td></td>
</tr>
</tbody>
</table>

20 / 24
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: 2.23 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):
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

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

Fluazuron:
Partition coefficient: n-octanol/water : log Pow: 5.1

Abamectin (combination of avermectin B1a and avermectin B1b):
Bioaccumulation : Bioconcentration factor (BCF): 52
Partition coefficient: n-octanol/water : 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
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. (Propan-2-ol)
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.

**National Regulations**

**ADG**
- **UN number**: UN 1993
- **Proper shipping name**: FLAMMABLE LIQUID, N.O.S. (Propan-2-ol)
- **Class**: 3
- **Packing group**: III
- **Labels**: 3
- **Hazchem Code**: •3Y

**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**

| Prohibition/Licensing Requirements | There is no applicable prohibition or notification/licensing requirements, including for carcinogens under Commonwealth, State or Territory legislation. |

**The components of this product are reported in the following inventories:**
- **AICS**: not determined
- **DSL**: not determined
- **IECSC**: not determined

### SECTION 16. OTHER INFORMATION

**Further information**
- **Revision Date**: 09/13/2019
- **Date format**: dd.mm.yyyy

**Full text of other abbreviations**
- **ACGIH**: USA. ACGIH Threshold Limit Values (TLV)
Abamectin / Fluazuron Formulation

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.

AU / EN