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

Fluazuron / Citronellal Formulation

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

1.1 Product identifier
   Trade name : Fluazuron / Citronellal Formulation

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

1.3 Details of the supplier of the safety data sheet
   Company : MSD
   Shotton Lane
   NE23 3JU Cramlington NU - Great Britain
   Telephone : 44 1 670 59 30 00
   Telefax : 908-735-1496
   E-mail address of person responsible for the SDS : EHSDATASTEWARD@msd.com

1.4 Emergency telephone number
   1-908-423-6000

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

   Classification (REGULATION (EC) No 1272/2008)
   Flammable liquids, Category 3 H226: Flammable liquid and vapour.
   Skin irritation, Category 2 H315: Causes skin irritation.
   Eye irritation, Category 2 H319: Causes serious eye irritation.
   Skin sensitisation, Category 1 H317: May cause an allergic skin reaction.
   Reproductive toxicity, Category 1B H360D: May damage the unborn child.
   Specific target organ toxicity - single exposure, Category 3 H335: May cause respiratory irritation.
   Short-term (acute) aquatic hazard, Category 1 H400: Very toxic to aquatic life.
   Long-term (chronic) aquatic hazard, Category 1 H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

   Labelling (REGULATION (EC) No 1272/2008)
   Hazard pictograms :
   Signal word : Danger
Hazard statements: H226 Flammable liquid and vapour.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.  
H360D May damage the unborn child.  
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements: Prevention:  
P201 Obtain special instructions before use.  
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  

Response:  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P391 Collect spillage.

Hazardous components which must be listed on the label:  
N-Methyl-2-pyrrolidone  
6-Octenal, 3,7-dimethyl-

Additional Labelling: Restricted to professional users.

2.3 Other hazards  
Vapours may form explosive mixture with air.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Classification</th>
<th>Concentration (%) w/w</th>
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<tr>
<td>N-Methyl-2-pyrrolidone</td>
<td>872-50-4</td>
<td>212-828-1</td>
<td>606-021-00-7</td>
<td>Skin Irrit. 2; H315</td>
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<td>201-159-0</td>
<td>606-002-00-3</td>
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<tr>
<td>Propan-2-ol</td>
<td>67-63-0</td>
<td>200-661-7</td>
<td>603-117-00-0</td>
<td>Flam. Liq. 2; H225</td>
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<tr>
<td></td>
<td>201-159-0</td>
<td>606-002-00-3</td>
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<tr>
<td>Butanone</td>
<td>78-93-3</td>
<td>201-159-0</td>
<td>606-002-00-3</td>
<td>Flam. Liq. 2; H225</td>
<td>&gt;= 1 - &lt; 10</td>
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<tr>
<td></td>
<td>201-159-0</td>
<td>606-002-00-3</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
**Fluazuron / Citronellal Formulation**

**SECTION 4: First aid measures**

### 4.1 Description of first aid measures

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

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

**If inhaled**: If inhaled, remove to fresh air. Get medical attention.

**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.

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For explanation of abbreviations see section 16.
If swallowed: If swallowed, DO NOT induce vomiting. Get medical attention. Rinse mouth thoroughly with water.

4.2 Most important symptoms and effects, both acute and delayed
Risks: Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May cause respiratory irritation. May damage the unborn child.

4.3 Indication of any immediate medical attention and special treatment needed
Treatment: Treat symptomatically and supportively.

SECTION 5: Firefighting measures

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

Unsuitable extinguishing media: High volume water jet

5.2 Special hazards arising from the substance or mixture
Specific hazards during firefighting: Do not use a solid water stream as it may scatter and spread fire. Flash back possible over considerable distance. Vapours may form explosive mixtures with air. Exposure to combustion products may be a hazard to health.

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

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

Specific extinguishing methods: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.
SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions:
- Remove all sources of ignition.
- Use personal protective equipment.
- Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

6.2 Environmental precautions

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

6.3 Methods and material for containment and cleaning up

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

6.4 Reference to other sections

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

SECTION 7: Handling and storage

7.1 Precautions for safe handling

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

Local/Total ventilation:
- If sufficient ventilation is unavailable, use with local exhaust ventilation.
- Use explosion-proof electrical, ventilating and lighting equipment.

Advice on safe handling:
- Do not get on skin or clothing.
- Avoid breathing mist or vapours.
- Do not swallow.
- Do not get in eyes.
Wash skin thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment. Non-sparking tools should be used. Keep container tightly closed. Already sensitised individuals should consult their physician regarding working with respiratory irritants or sensitisers. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Take care to prevent spills, waste and minimize release to the environment.

Hygiene measures: If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before re-use.

The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.

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

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

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

**7.3 Specific end use(s)**

Specific use(s): No data available

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**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis</th>
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</table>

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

Fluazuron / Citronellal Formulation

Version 1.3
Revision Date: 10.10.2020
SDS Number: 4637975-00004
Date of last issue: 23.03.2020
Date of first issue: 09.07.2019

<table>
<thead>
<tr>
<th>Substance name</th>
<th>End Use</th>
<th>Exposure routes</th>
<th>Potential health effects</th>
<th>Value</th>
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<td>N-Methyl-2-pyrrolidone</td>
<td>TWA</td>
<td>TWA</td>
<td></td>
<td>10 ppm (TWA)</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
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<td>80 mg/m3</td>
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<tr>
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<td>2009/161/EU</td>
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<td>STEL</td>
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<td>2009/161/EU</td>
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<td></td>
<td>20 ppm (STEL)</td>
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<td>2009/161/EU</td>
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<td>Propan-2-ol</td>
<td>OELV</td>
<td>OELV - 8 hrs (TWA)</td>
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<td>200 ppm (TWA)</td>
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<td>2000/39/EC</td>
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<tr>
<td>Butanone</td>
<td>TWA</td>
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<td>200 ppm (TWA)</td>
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<td>600 ppm (TWA)</td>
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<td>300 ppm (STEL)</td>
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<td>60 µg/m3 (OEB 3)</td>
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<td>Internal</td>
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<td>Wipe limit</td>
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<td>2,6-Di-tert-butyl-p-cresol</td>
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<td>2 mg/m3</td>
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<td>IE OEL</td>
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Further information: Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit value should be used.

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

<table>
<thead>
<tr>
<th>Substance name</th>
<th>End Use</th>
<th>Exposure routes</th>
<th>Potential health effects</th>
<th>Value</th>
</tr>
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<tbody>
<tr>
<td>Fluazuron</td>
<td>TWA</td>
<td>TWA</td>
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<td>60 µg/m3 (OEB 3)</td>
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<td>Wipe limit</td>
<td>600 µg/ 100cm2</td>
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<tr>
<td>2,6-Di-tert-butyl-p-cresol</td>
<td>OELV</td>
<td>OELV - 8 hrs (TWA)</td>
<td>2 mg/m3</td>
<td></td>
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<td>2 mg/m3 (TWA)</td>
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<td>IE OEL</td>
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<td>Exposure Route</td>
<td>Concentration</td>
<td>Effect Duration</td>
<td>Effect Duration</td>
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<tr>
<td>6-Octenal, 3,7-dimethyl-</td>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>9 mg/m³</td>
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<td>Workers</td>
<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>1.7 mg/kg bw/day</td>
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<td>Skin contact</td>
<td>Long-term local effects</td>
<td>0.140 mg/cm²</td>
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<td>Consumers</td>
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<td>Long-term systemic effects</td>
<td>2.7 mg/m³</td>
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<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>1 mg/kg bw/day</td>
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<td>Long-term local effects</td>
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<td>N-Methyl-2-pyrrolidone</td>
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<td>Workers</td>
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<td>Long-term systemic effects</td>
<td>40 mg/m³</td>
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<td>Long-term systemic effects</td>
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<td>Long-term systemic effects</td>
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<td>Skin contact</td>
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<td>Long-term systemic effects</td>
<td>500 mg/m³</td>
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<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>888 mg/kg bw/day</td>
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<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>89 mg/m³</td>
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<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>319 mg/kg bw/day</td>
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<td>Butanone</td>
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<td>Long-term systemic effects</td>
<td>600 mg/m³</td>
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<td>Skin contact</td>
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<td>1161 mg/kg bw/day</td>
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<td>Ingestion</td>
<td>Long-term systemic effects</td>
<td>31 mg/kg bw/day</td>
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<td>2,6-Di-tert-butyl-p-cresol</td>
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<td>Long-term systemic effects</td>
<td>3.5 mg/m³</td>
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<td>Dermal</td>
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<td>Long-term systemic effects</td>
<td>0.86 mg/m³</td>
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### Fluazuron / Citronellal Formulation

**SAFETY DATA SHEET**

according to Regulation (EC) No. 1907/2006

**Fluazuron / Citronellal Formulation**

<table>
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<th>Version</th>
<th>Revision Date</th>
<th>SDS Number</th>
<th>Date of last issue: 23.03.2020</th>
<th>Date of first issue: 09.07.2019</th>
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**Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:**

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<th>Substance name</th>
<th>Environmental Compartment</th>
<th>Value</th>
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<tbody>
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<td>6-Octenal, 3,7-dimethyl-</td>
<td>Fresh water</td>
<td>0.00868 mg/l</td>
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<tr>
<td></td>
<td>Marine water</td>
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<tr>
<td></td>
<td>Intermittent use/release</td>
<td>0.0868 mg/l</td>
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<tr>
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<td>Sewage treatment plant</td>
<td>4 mg/l</td>
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<tr>
<td></td>
<td>Fresh water sediment</td>
<td>0.159 mg/kg</td>
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<tr>
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<td>Marine sediment</td>
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<tr>
<td></td>
<td>Soil</td>
<td>0.0267 mg/kg</td>
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<td>Marine water</td>
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<td>Fresh water sediment</td>
<td>1.09 mg/kg dry weight (d.w.)</td>
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<td>Marine sediment</td>
<td>1.09 mg/kg dry weight (d.w.)</td>
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<td>Soil</td>
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<td>Intermittent use/release</td>
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<td>Sewage treatment plant</td>
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<tr>
<td></td>
<td>Soil</td>
<td>28 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td>Oral (Secondary Poisoning)</td>
<td>Fresh water</td>
<td>0.199 µg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.02 µg/l</td>
</tr>
<tr>
<td></td>
<td>Sewage treatment plant</td>
<td>0.02 µg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>0.17 mg/l</td>
</tr>
<tr>
<td></td>
<td>Oral (Secondary Poisoning)</td>
<td>1000 mg/kg food</td>
</tr>
<tr>
<td>Butanone</td>
<td>Fresh water</td>
<td>55.8 mg/l</td>
</tr>
<tr>
<td></td>
<td>Freshwater - intermittent</td>
<td>55.8 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>55.8 mg/l</td>
</tr>
<tr>
<td></td>
<td>Sewage treatment plant</td>
<td>709 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>284.74 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>284.7 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>22.5 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td>2,6-Di-tert-butyl-p-cresol</td>
<td>Fresh water</td>
<td>0.199 µg/l</td>
</tr>
<tr>
<td></td>
<td>Intermittent use/release</td>
<td>0.02 µg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.02 µg/l</td>
</tr>
<tr>
<td></td>
<td>Sewage treatment plant</td>
<td>0.17 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>0.0996 mg/kg dry weight (d.w.)</td>
</tr>
</tbody>
</table>
### Marine Sediment

- **Concentration**: 0.00996 mg/kg dry weight (d.w.)

### Soil

- **Concentration**: 0.04769 mg/kg dry weight (d.w.)

### Oral (Secondary Poisoning)

- **Concentration**: 8.33 mg/kg food

---

### 8.2 Exposure controls

#### Engineering measures

- Use explosion-proof electrical, ventilating and lighting equipment.
- Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., drip-less quick connections).
- All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment.
- Containment technologies suitable for controlling compounds are required to control at source and to prevent migration of the compound to uncontrolled areas (e.g., open-face containment devices).
- Minimize open handling.

#### Personal protective equipment

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

**Hand protection**

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

**Skin and body protection**

- Material: Work uniform or laboratory coat.
- Additional body garments should be used based upon the task being performed (e.g., sleevelants, apron, gauntlets, disposable suits) to avoid exposed skin surfaces.
- Use appropriate degowning techniques to remove potentially contaminated clothing.

**Respiratory protection**

- If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.
- Equipment should conform to I.S. EN 14387
- Filter type: Organic vapour type (A)

---

### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

- **Appearance**: Aqueous solution
- **Colour**: Yellow
- **Odour**: No data available
- **Odour Threshold**: No data available
- **pH**: No data available
Melting point/freezing point : -4 °C
Initial boiling point and boiling range : 78 °C
Flash point : 52 °C
Evaporation rate : No data available
Flammability (solid, gas) : Not applicable
Upper explosion limit / Upper flammability limit : No data available
Lower explosion limit / Lower flammability limit : No data available
Vapour pressure : No data available
Relative vapour density : No data available
Relative density : 0.94 - 0.96
Density : No data available
Solubility(ies)
Water solubility : practically insoluble
Solubility in other solvents : soluble
Solvent: Ethanol
Partition coefficient: n-octanol/water : log Pow: -0.54
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Viscosity
Viscosity, kinematic : 5.3 - 5.7 mm2/s (25 °C)
Explosive properties : Not explosive
Oxidizing properties : The substance or mixture is not classified as oxidizing.

9.2 Other information

Flammability (liquids) : Not applicable
Molecular weight : No data available
Particle size : Not applicable
SECTION 10: Stability and reactivity

10.1 Reactivity
Not classified as a reactivity hazard.

10.2 Chemical stability
Stable under normal conditions.

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

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

10.5 Incompatible materials
Materials to avoid: Oxidizing agents

10.6 Hazardous decomposition products
No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Information on likely routes of exposure: Inhalation, Skin contact, Ingestion, Eye contact

Acute toxicity
Not classified based on available information.

Components:

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

Propan-2-ol:
- Acute oral toxicity: LD50 (Rat): > 5,000 mg/kg
- Acute inhalation toxicity: LC50 (Rat): > 25 mg/l
  Exposure time: 6 h
  Test atmosphere: vapour
Acute dermal toxicity: LD50 (Rabbit): > 5,000 mg/kg

**Butanone:**
- Acute oral toxicity: LD50 (Rat): > 2,000 - 5,000 mg/kg
  Remarks: Based on data from similar materials
- Acute inhalation toxicity: LC50 (Rat): > 25.5 mg/l
  Exposure time: 4 h
  Test atmosphere: vapour
  Method: OECD Test Guideline 436
  Remarks: Based on data from similar materials
- Acute dermal toxicity: LD50 (Rabbit): > 5,000 mg/kg

**6-Octenal, 3,7-dimethyl-:**
- Acute oral toxicity: LD50 (Rat): 2,423 mg/kg
- Acute dermal toxicity: LD50 (Rabbit): > 2,500 - < 5,000 mg/kg

**Fluazuron:**
- Acute oral toxicity: LD50 (Rat): > 5,000 mg/kg
  Method: OECD Test Guideline 401
- Acute inhalation toxicity: LC50 (Rat): > 6.0 mg/l
  Exposure time: 4 h
  Test atmosphere: dust/mist
  Method: OECD Test Guideline 403
- Acute dermal toxicity: LD50 (Rat): > 2,000 mg/kg
  Method: OECD Test Guideline 402

**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:**

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

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

**Butanone:**
Assessment : Repeated exposure may cause skin dryness or cracking.

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation
Remarks : Based on data from similar materials

6-Octenal, 3,7-dimethyl-:
Species : Rabbit
Result : Skin irritation

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

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

**Serious eye damage/eye irritation**
Causes serious eye irritation.

**Components:**

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

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

**Butanone:**
Species : Rabbit
Method : OECD Test Guideline 405
Result : Irritation to eyes, reversing within 21 days

6-Octenal, 3,7-dimethyl-:
Species : Rabbit
Result : Irritation to eyes, reversing within 21 days
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Fluazuron:
Species: Rabbit
Method: OECD Test Guideline 405
Result: Mild eye irritation

2,6-Di-tert-butyl-p-cresol:
Species: Rabbit
Method: OECD Test Guideline 405
Result: No eye irritation
Remarks: Based on data from similar materials

Respiratory or skin sensitisation
Skin sensitisation
May cause an allergic skin reaction.

Respiratory sensitisation
Not classified based on available information.

Components:

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

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

Butanone:
Test Type: Buehler Test
Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative

6-Octenal, 3,7-dimethyl-:
Test Type: Maximisation Test
Exposure routes: Skin contact
Species: Guinea pig
Result: positive
Assessment: Probability or evidence of skin sensitisation in humans
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Fluazuron:
Exposure routes : Skin contact
Species : Guinea pig
Result : negative

2,6-Di-tert-butyl-p-cresol:
Test Type : Human repeat insult patch test (HRIPT)
Exposure routes : Skin contact
Species : Humans
Result : negative

Germ cell mutagenicity
Not classified based on available information.

Components:

N-Methyl-2-pyrrolidone:
Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 474
Result: negative

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

Propan-2-ol:
Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Butanone:
Genotoxicity in vitro:
Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Test Type: In vitro mammalian cell gene mutation test
Result: negative
Test Type: Chromosome aberration test in vitro
Result: negative
Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
Result: negative
Test Type: Saccharomyces cerevisiae, gene mutation assay (in vitro)
Result: negative

Genotoxicity in vivo:
Species: Mouse
Application Route: Intraperitoneal injection
Result: negative

6-Octenal, 3,7-dimethyl-:
Genotoxicity in vitro:
Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
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:
Species: Hamster
Result: equivocal

2,6-Di-tert-butyl-p-cresol:
Genotoxicity in vitro:
Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

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Version 1.3 Revision Date: 10.10.2020 SDS Number: 4637954-00004 Date of last issue: 23.03.2020 Date of first issue: 09.07.2019

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:

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

Species: Rat
Application Route: inhalation (vapour)
Exposure time: 2 Years
Result: negative

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

6-Octenal, 3,7-dimethyl-:
Species: Rat
Application Route: Ingestion
Exposure time: 104 - 105 weeks
Result: negative
Remarks: Based on data from similar materials

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

Species: Mouse
Application Route: Ingestion
Fluazuron / Citronellal Formulation

Exposure time: 2 Years
Result: negative

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

Reproductive toxicity
May damage the unborn child.

Components:

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

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

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

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

Effects on foetal development:
Species: Rat
Application Route: Ingestion
Result: negative

Butanone:
## Fluazuron / Citronellal Formulation

| Effects on fertility | Test Type: Two-generation reproduction toxicity study  
Species: Rat  
Application Route: Ingestion  
Result: negative  
Remarks: Based on data from similar materials |
| Effects on foetal development | Test Type: Embryo-foetal development  
Species: Rat  
Application Route: Inhalation  
Method: OECD Test Guideline 414  
Result: negative |

### 6-Octenal, 3,7-dimethyl-:
| Effects on fertility | Test Type: Reproduction/Developmental toxicity screening test  
Species: Rat  
Application Route: Ingestion  
Method: OECD Test Guideline 421  
Result: negative  
Remarks: Based on data from similar materials |
| Effects on foetal development | Test Type: Embryo-foetal development  
Species: Rat  
Application Route: Inhalation  
Result: negative  
Remarks: Based on data from similar materials |

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

### 2,6-Di-tert-butyl-p-cresol:
| Effects on fertility | Test Type: Two-generation reproduction toxicity study  
Species: Rat  
Application Route: Ingestion  
Result: negative |
| Effects on foetal development | Test Type: Embryo-foetal development  
Species: Rat |
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Fluazuron / Citronellal Formulation

Version: 1.3  Revision Date: 10.10.2020  SDS Number: 4637954-00004  Date of last issue: 23.03.2020  Date of first issue: 09.07.2019

Application Route: Ingestion
Result: negative

STOT - single exposure
May cause respiratory irritation.

Components:

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

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

Butanone:
Assessment : May cause drowsiness or dizziness.

STOT - repeated exposure
Not classified based on available information.

Components:

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:

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

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

Species : Rabbit
NOAEL : 826 mg/kg
LOAEL : 1,653 mg/kg
Application Route : Skin contact
Exposure time : 20 Days
Propan-2-ol:
Species: Rat
NOAEL: 12.5 mg/l
Application Route: inhalation (vapour)
Exposure time: 104 Weeks

Butanone:
Species: Rat
NOAEL: 14.84 mg/l
Application Route: inhalation (vapour)
Exposure time: 90 Days
Method: OECD Test Guideline 413

6-Octenal, 3,7-dimethyl-:
Species: Rat
NOAEL: 100 mg/kg
LOAEL: 210 mg/kg
Application Route: Ingestion
Exposure time: 104 - 105 Weeks
Remarks: Based on data from similar materials

Species: Rat
NOAEL: 215 mg/m3
LOAEL: 430 mg/m3
Application Route: Inhalation
Exposure time: 13 Weeks
Remarks: Based on data from similar materials

Fluazuron:
Species: Rat
LOAEL: 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

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.

Components:  
Butanone:  
The substance or mixture causes concern owing to the assumption that it causes a human aspiration toxicity hazard.

Experience with human exposure  
Components:  
N-Methyl-2-pyrrolidone:  
Skin contact: Symptoms: Skin irritation

SECTION 12: Ecological information

12.1 Toxicity  
Components:  
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 microorganisms: EC50: > 600 mg/l  
Exposure time: 30 min  
Method: ISO 8192

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOEC: 12.5 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Method: OECD Test Guideline 211

Propan-2-ol:  
Toxicity to fish: LC50 (Pimephales promelas (fathead minnow)): 9,640 mg/l  
Exposure time: 96 h
### Fluazuron / Citronellal Formulation

<table>
<thead>
<tr>
<th>Toxicity to daphnia and other aquatic invertebrates</th>
<th>EC50 (Daphnia magna (Water flea)): &gt; 10,000 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Exposure time: 24 h</td>
</tr>
<tr>
<td>Toxicity to microorganisms</td>
<td>EC50 (Pseudomonas putida): &gt; 1,050 mg/l</td>
</tr>
<tr>
<td></td>
<td>Exposure time: 16 h</td>
</tr>
<tr>
<td><strong>Butanone:</strong></td>
<td></td>
</tr>
<tr>
<td>Toxicity to fish</td>
<td>LC50 (Pimephales promelas (fathead minnow)): 2,993 mg/l</td>
</tr>
<tr>
<td></td>
<td>Exposure time: 96 h</td>
</tr>
<tr>
<td></td>
<td>Method: OECD Test Guideline 203</td>
</tr>
<tr>
<td>Toxicity to daphnia and other aquatic invertebrates</td>
<td>EC50 (Daphnia magna (Water flea)): 308 mg/l</td>
</tr>
<tr>
<td></td>
<td>Exposure time: 48 h</td>
</tr>
<tr>
<td></td>
<td>Method: OECD Test Guideline 202</td>
</tr>
<tr>
<td>Toxicity to algae/aquatic plants</td>
<td>ErC50 (Pseudokirchneriella subcapitata (green algae)): 2,029 mg/l</td>
</tr>
<tr>
<td></td>
<td>Exposure time: 96 h</td>
</tr>
<tr>
<td></td>
<td>Method: OECD Test Guideline 201</td>
</tr>
<tr>
<td></td>
<td>NOEC (Pseudokirchneriella subcapitata (green algae)): 1,240 mg/l</td>
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<tr>
<td></td>
<td>Exposure time: 96 h</td>
</tr>
<tr>
<td></td>
<td>Method: OECD Test Guideline 201</td>
</tr>
<tr>
<td><strong>6-Octenal, 3,7-dimethyl-</strong></td>
<td></td>
</tr>
<tr>
<td>Toxicity to fish</td>
<td>LC50 (Leuciscus idus (Golden orfe)): 22 mg/l</td>
</tr>
<tr>
<td></td>
<td>Exposure time: 96 h</td>
</tr>
<tr>
<td></td>
<td>Method: DIN 38412</td>
</tr>
<tr>
<td>Toxicity to daphnia and other aquatic invertebrates</td>
<td>EC50 (Daphnia magna (Water flea)): 8.7 mg/l</td>
</tr>
<tr>
<td></td>
<td>Exposure time: 48 h</td>
</tr>
<tr>
<td>Toxicity to algae/aquatic plants</td>
<td>EC50 (Desmodesmus subspicatus (green algae)): 6.74 mg/l</td>
</tr>
<tr>
<td></td>
<td>Exposure time: 72 h</td>
</tr>
<tr>
<td><strong>Fluazuron:</strong></td>
<td></td>
</tr>
<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 aquatic invertebrates</td>
<td>EC50 (Daphnia sp. (water flea)): 0.0006 mg/l</td>
</tr>
<tr>
<td></td>
<td>Exposure time: 48 h</td>
</tr>
<tr>
<td>Toxicity to algae/aquatic plants</td>
<td>NOEC (Raphidocelis subcapitata (freshwater green alga)): 27.9 mg/l</td>
</tr>
<tr>
<td></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>
2,6-Di-tert-butyl-p-cresol:
Toxicity to fish: LC50 (Danio rerio (zebra fish)): > 0.57 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 0.48 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants: ErC50 (Pseudokirchneriella subcapitata (green algae)): > 0.24 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.24 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity): 1

Toxicity to microorganisms: EC50: > 10,000 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

Toxicity to fish (Chronic toxicity): NOEC: 0.053 mg/l
Exposure time: 30 d
Species: Oryzias latipes (Japanese medaka)
Method: OECD Test Guideline 210

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOEC: 0.316 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

M-Factor (Chronic aquatic toxicity): 1

12.2 Persistence and degradability

Components:

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

Propan-2-ol:
Biodegradability: Result: rapidly degradable

BOD/COD: BOD: 1.19 (BOD5)
COD: 2.23
BOD/COD: 53 %
**Butanone:**
Biodegradability : Result: Readily biodegradable.
Biodegradation: 98 %
Exposure time: 28 d
Method: OECD Test Guideline 301D

**6-Octenal, 3,7-dimethyl:-**
Biodegradability : Result: Readily biodegradable.
Biodegradation: 83 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

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

### 12.3 Bioaccumulative potential

#### Components:

**N-Methyl-2-pyrrolidone:**
Partition coefficient: n-octanol/water : log Pow: -0.46
Method: OECD Test Guideline 107

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

**Butanone:**
Partition coefficient: n-octanol/water : log Pow: 0.3

**6-Octenal, 3,7-dimethyl:-**
Partition coefficient: n-octanol/water : log Pow: 3.62

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

**2,6-Di-tert-butyl-p-cresol:**
Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 330 - 1,800

Bioaccumulation : log Pow: 5.1

#### 12.4 Mobility in soil
No data available
12.5 Results of PBT and vPvB assessment
Not relevant

12.6 Other adverse effects
No data available

SECTION 13: Disposal considerations

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

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

SECTION 14: Transport information

14.1 UN number
ADN : UN 1993
ADR : UN 1993
RID : UN 1993
IMDG : UN 1993
IATA : UN 1993

14.2 UN proper shipping name
ADN : FLAMMABLE LIQUID, N.O.S. (Propan-2-ol, Butanone)
ADR : FLAMMABLE LIQUID, N.O.S. (Propan-2-ol, Butanone)
RID : FLAMMABLE LIQUID, N.O.S. (Propan-2-ol, Butanone)
IMDG : FLAMMABLE LIQUID, N.O.S. (Propan-2-ol, Butanone, Fluazuron, 2,6-Di-tert-butyl-p-cresol)
IATA : Flammable liquid, n.o.s. (Propan-2-ol, Butanone)

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

14.4 Packing group

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

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

**RID**
Packing group : III
Classification Code : F1
Hazard Identification Number : 30
Labels : 3

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

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

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

14.5 Environmental hazards

**ADN**
Environmentally hazardous : yes

**ADR**
Environmentally hazardous : yes

**RID**
Environmentally hazardous : yes

**IMDG**
Marine pollutant : yes
14.6 Special precautions for user

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

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

Remarks: Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII):

Conditions of restriction for the following entries should be considered:
Number on list 3
N-Methyl-2-pyrrolidone (Number on list 72, 71, 30)

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59):
N-Methyl-2-pyrrolidone

REACH - List of substances subject to authorisation (Annex XIV):
Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:
Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast):
Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals:
Not applicable


<table>
<thead>
<tr>
<th>Quantity 1</th>
<th>Quantity 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 t</td>
<td>200 t</td>
</tr>
<tr>
<td>5,000 t</td>
<td>50,000 t</td>
</tr>
</tbody>
</table>

Other regulations:

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

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

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

<table>
<thead>
<tr>
<th>Inventory</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>AICS</td>
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</tr>
<tr>
<td>DSL</td>
<td>not determined</td>
</tr>
<tr>
<td>IECSC</td>
<td>not determined</td>
</tr>
</tbody>
</table>

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Fluazuron / Citronellal Formulation

Version 1.3
Revision Date: 10.10.2020
SDS Number: 4637954-00004
Date of last issue: 23.03.2020
Date of first issue: 09.07.2019

SECTION 16: Other information

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

Full text of H-statements

H225 : Highly flammable liquid and vapour.
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.
H400 : Very toxic to aquatic life.
H410 : Very toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Aquatic Acute : Short-term (acute) aquatic hazard
Aquatic Chronic : Long-term (chronic) aquatic hazard
Eye Irrit. : Eye irritation
Flam. Liq. : Flammable liquids
Repr. : Reproductive toxicity
Skin Irrit. : Skin irritation
Skin Sens. : Skin sensitisation
STOT SE : Specific target organ toxicity - single exposure
IE OEL : Ireland. List of Chemical Agents and Occupational Exposure Limit Values - Schedule 1
2000/39/EC / TWA : Limit Value - eight hours
2000/39/EC / STEL : Short term exposure limit
2009/161/EU / TWA : Limit Value - eight hours
2009/161/EU / STEL : Short term exposure limit
IE OEL / OELV - 8 hrs (TWA) : Occupational exposure limit value (8-hour reference period)
IE OEL / OELV - 15 min (STEL) : Occupational exposure limit value (15-minute reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - Interna-
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

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

Classification of the mixture:
- Flam. Liq. 3: H226
- Skin Irrit. 2: H315
- Eye Irrit. 2: H319
- Skin Sens. 1: H317
- Repr. 1B: H360D
- STOT SE 3: H335
- Aquatic Acute 1: H400
- Aquatic Chronic 1: H410

Classification procedure:
- Based on product data or assessment
- Calculation method
- Calculation method
- Calculation method
- Calculation method
- Calculation method
- Calculation method

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.

IE / EN