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

Fluazuron / Citronellal Formulation

Version 1.4  Revision Date: 09.04.2021  SDS Number: 4637959-00005  Date of last issue: 10.10.2020
Date of first issue: 09.07.2019

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
Kilsheean
Clonmel Tipperary, IE
Telephone: 353-51-601000
E-mail address of person responsible for the SDS: EHSDATASTEWARD@msd.com

1.4 Emergency telephone number
+1-908-423-6000

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification (REGULATION (EC) No 1272/2008)
- Flammable liquids, Category 3
- Skin irritation, Category 2
- Eye irritation, Category 2
- Skin sensitisation, Category 1
- Reproductive toxicity, Category 1B
- Specific target organ toxicity - single exposure, Category 3
- Short-term (acute) aquatic hazard, Category 1
- Long-term (chronic) aquatic hazard, Category 1

Hazard statements:
H226: Flammable liquid and vapour.
H315: Causes skin irritation.
H319: Causes serious eye irritation.
H317: May cause an allergic skin reaction.
H360D: May damage the unborn child.
H335: May cause respiratory irritation.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements
Labelling (REGULATION (EC) No 1272/2008)
Signal word: Danger
Hazard statements: H226 Flammable liquid and vapour.
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
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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

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

Vapours may form explosive mixture with air.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Classification</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-Methyl-2-pyrrolidone</td>
<td>872-50-4</td>
<td></td>
<td>Skin Irrit. 2; H315</td>
<td>&gt;= 30 - &lt; 50</td>
</tr>
</tbody>
</table>
## 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.

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

Fluazuron / Citronellal Formulation

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

**Fluazuron / Citronellal 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>
<tbody>
<tr>
<td>1.4</td>
<td>09.04.2021</td>
<td>4637959-00005</td>
<td>10.10.2020</td>
<td>09.07.2019</td>
</tr>
</tbody>
</table>

Substances and mixtures, which in contact with water, emit flammable gases
Explosives
Gases

### 7.3 Specific end use(s)

Specific use(s): No data available

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

**Occupational Exposure Limits**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-Methyl-2-pyrrolidone</td>
<td>872-50-4</td>
<td>TWA</td>
<td>5 ppm</td>
<td>FOR-2011-12-06-1358</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>20 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>20 ppm</td>
<td>FOR-2011-12-06-1358</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>80 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Further information: The EU has set an indicative limit value for this substance, Substances considered to be reprotoxic, Chemicals that can be absorbed through the skin.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propan-2-ol</td>
<td>67-63-0</td>
<td>TWA</td>
<td>100 ppm</td>
<td>2009/161/EU</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>245 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Further information: Identifies the possibility of significant uptake through the skin, Indicative</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Butanone</td>
<td>78-93-3</td>
<td>TWA</td>
<td>75 ppm</td>
<td>2009/161/EU</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>220 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Further information: Identifies the possibility of significant uptake through the skin, Indicative</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fluazuron</td>
<td>86811-58-7</td>
<td>TWA</td>
<td>60 µg/m³ (OEB 3)</td>
<td>2000/39/EC</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>600 µg/ 100cm²</td>
<td>Internal</td>
</tr>
<tr>
<td>Further information: Indicative</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Further information: Indicative</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Further information: Indicative</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

7 / 32
### Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

<table>
<thead>
<tr>
<th>Substance name</th>
<th>End Use</th>
<th>Exposure routes</th>
<th>Potential health effects</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-Octenal, 3,7-dimethyl-</td>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>9 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>1,7 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Skin contact</td>
<td>Long-term local effects</td>
<td>0,140 mg/cm²</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>2,7 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>1 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Skin contact</td>
<td>Long-term local effects</td>
<td>0,140 mg/cm²</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Ingestion</td>
<td>Long-term systemic effects</td>
<td>0,6 mg/kg bw/day</td>
</tr>
<tr>
<td>N-Methyl-2-pyrrolidone</td>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>14,4 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term local effects</td>
<td>40 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>4,8 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>3,6 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Inhalation</td>
<td>Long-term local effects</td>
<td>4,5 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>2,4 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Ingestion</td>
<td>Long-term systemic effects</td>
<td>0,85 mg/kg bw/day</td>
</tr>
<tr>
<td>Propan-2-ol</td>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>500 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>888 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>89 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>319 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Ingestion</td>
<td>Long-term systemic effects</td>
<td>26 mg/kg bw/day</td>
</tr>
<tr>
<td>Butanone</td>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>600 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>1161 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>106 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>412 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Ingestion</td>
<td>Long-term systemic effects</td>
<td>31 mg/kg bw/day</td>
</tr>
<tr>
<td>2,6-Di-tert-butyl-p-cresol</td>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>3,5 mg/m³</td>
</tr>
</tbody>
</table>
## Fluazuron / Citronellal Formulation

<table>
<thead>
<tr>
<th></th>
<th>Workers</th>
<th>Dermal</th>
<th>Long-term systemic effects</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>0,86 mg/m3</td>
<td></td>
</tr>
<tr>
<td>Consumers</td>
<td>Dermal</td>
<td>Long-term systemic effects</td>
<td>0,25 mg/kg bw/day</td>
<td></td>
</tr>
<tr>
<td>Consumers</td>
<td>Ingestion</td>
<td>Long-term systemic effects</td>
<td>0,25 mg/kg bw/day</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Substance name</th>
<th>Environmental Compartment</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-Octenal, 3,7-dimethyl-</td>
<td>Fresh water</td>
<td>0,00868 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0,00087 mg/l</td>
</tr>
<tr>
<td></td>
<td>Intermittent use/release</td>
<td>0,0868 mg/l</td>
</tr>
<tr>
<td></td>
<td>Sewage treatment plant</td>
<td>4 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>0,159 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>0,0159 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>0,0267 mg/kg</td>
</tr>
<tr>
<td>N-Methyl-2-pyrrolidone</td>
<td>Fresh water</td>
<td>0,25 mg/l</td>
</tr>
<tr>
<td></td>
<td>Freshwater - intermittent</td>
<td>5 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0,025 mg/l</td>
</tr>
<tr>
<td></td>
<td>Sewage treatment plant</td>
<td>10 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>1,09 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>1,09 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>0,07 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td>Propan-2-ol</td>
<td>Fresh water</td>
<td>140,9 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>140,9 mg/l</td>
</tr>
<tr>
<td></td>
<td>Intermittent use/release</td>
<td>140,9 mg/l</td>
</tr>
<tr>
<td></td>
<td>Sewage treatment plant</td>
<td>2251 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>552 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>552 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>28 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td></td>
<td>Oral (Secondary Poisoning)</td>
<td>160 mg/kg food</td>
</tr>
<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></td>
<td>Oral (Secondary Poisoning)</td>
<td>1000 mg/kg food</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>
</tbody>
</table>
8.2 Exposure controls

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

Personal protective equipment

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

Hand protection

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

Skin and body protection : Work uniform or laboratory coat. Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces. Use appropriate degowning techniques to remove potentially 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 NS EN 14387

Filter type : Organic vapour type (A)

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : Aqueous solution
Colour : yellow
Odour : No data available
Odour Threshold : No data available
Melting point/freezing point: -4 °C

Initial boiling point and boiling range: 78 °C

Flammability (solid, gas): Not applicable

Flammability (liquids): Not applicable

Upper explosion limit / Upper flammability limit: No data available

Lower explosion limit / Lower flammability limit: No data available

Flash point: 52 °C

Auto-ignition temperature: No data available

Decomposition temperature
Decomposition temperature: No data available

pH: No data available

Viscosity
Viscosity, kinematic: 5.3 - 5.7 mm²/s (25 °C)

Solubility(ies)
Water solubility: practically insoluble
Solubility in other solvents: soluble
Solvent: Ethanol

Partition coefficient: n-octanol/water: log Pow: -0.54

Vapour pressure: No data available

Relative density: 0.94 - 0.96

Density: No data available

Relative vapour density: No data available

Particle characteristics
Particle size: Not applicable

9.2 Other information

Explosives: Not explosive

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

Evaporation rate: No data available
**SAFETY DATA SHEET**

according to Regulation (EC) No. 1907/2006

**Fluazuron / Citronellal Formulation**

**Version** 1.4
**Revision Date:** 09.04.2021
**SDS Number:** 4637959-00005
**Date of last issue:** 10.10.2020
**Date of first issue:** 09.07.2019

---

Molecular weight : No data available

---

**SECTION 10: Stability and reactivity**

10.1 Reactivity
Not classified as a reactivity hazard.

10.2 Chemical stability
Stable under normal conditions.

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

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

10.5 Incompatible materials
Materials to avoid : Oxidizing agents

10.6 Hazardous decomposition products
No hazardous decomposition products are known.

---

**SECTION 11: Toxicological information**

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

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

Acute toxicity
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 (Rabbit): > 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-pyrroldione**:
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
### Fluazuron / Citronellal Formulation

**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

**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

**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)  
Species: Mouse  
Application Route: Intraperitoneal injection  
Result: negative

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: Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
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: Test Type: Cytogenetic assay  
Species: Hamster  
Result: equivocal

2,6-Di-tert-butyl-p-cresol:
Fluazuron / Citronellal Formulation

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

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

Carcinogenicity
Not classified based on available information.

Components:

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

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

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

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

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
Butanone:

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

Fluazuron / Citronellal Formulation

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.

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

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

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

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

Butanone:  
Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 2.993 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 308 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 2.029 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 201  
NOEC (Pseudokirchneriella subcapitata (green algae)): 1.240 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 201

6-Octenal, 3,7-dimethyl-:  
Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 22 mg/l  
Exposure time: 96 h  
Method: DIN 38412

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 8.7 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): 6.74 mg/l  
Exposure time: 72 h

Fluazuron:  
Toxicity to fish : LC50 (Cyprinus carpio (Carp)): > 9.1 mg/l
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Fluazuron / Citronellal Formulation

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

M-Factor (Acute aquatic toxicity): 1.000

M-Factor (Chronic aquatic toxicity): 1.000

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
12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment

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

12.6 Other adverse effects

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

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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

Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal. Empty containers retain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death. If not otherwise specified: Dispose of as unused product.
SECTION 14: Transport information

14.1 UN number or ID number

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADN</td>
<td>UN 1993</td>
</tr>
<tr>
<td>ADR</td>
<td>UN 1993</td>
</tr>
<tr>
<td>RID</td>
<td>UN 1993</td>
</tr>
<tr>
<td>IMDG</td>
<td>UN 1993</td>
</tr>
<tr>
<td>IATA</td>
<td>UN 1993</td>
</tr>
</tbody>
</table>

14.2 UN proper shipping name

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADN</td>
<td>FLAMMABLE LIQUID, N.O.S. (Propan-2-ol, Butanone)</td>
</tr>
<tr>
<td>ADR</td>
<td>FLAMMABLE LIQUID, N.O.S. (Propan-2-ol, Butanone)</td>
</tr>
<tr>
<td>RID</td>
<td>FLAMMABLE LIQUID, N.O.S. (Propan-2-ol, Butanone)</td>
</tr>
<tr>
<td>IMDG</td>
<td>FLAMMABLE LIQUID, N.O.S. (Propan-2-ol, Butanone, Fluazuron, 2,6-Di-tert-butyl-p-cresol)</td>
</tr>
<tr>
<td>IATA</td>
<td>Flammable liquid, n.o.s. (Propan-2-ol, Butanone)</td>
</tr>
</tbody>
</table>

14.3 Transport hazard class(es)

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADN</td>
<td>3</td>
</tr>
<tr>
<td>ADR</td>
<td>3</td>
</tr>
<tr>
<td>RID</td>
<td>3</td>
</tr>
<tr>
<td>IMDG</td>
<td>3</td>
</tr>
<tr>
<td>IATA</td>
<td>3</td>
</tr>
</tbody>
</table>

14.4 Packing group

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADN</td>
<td>III</td>
</tr>
<tr>
<td></td>
<td>F1</td>
</tr>
<tr>
<td></td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>3</td>
</tr>
<tr>
<td>ADR</td>
<td>III</td>
</tr>
<tr>
<td></td>
<td>F1</td>
</tr>
<tr>
<td></td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>(D/E)</td>
</tr>
<tr>
<td>RID</td>
<td>III</td>
</tr>
<tr>
<td></td>
<td>F1</td>
</tr>
<tr>
<td></td>
<td>30</td>
</tr>
</tbody>
</table>
### Fluazuron / Citronellal Formulation

**Version**: 1.4  
**Revision Date**: 09.04.2021  
**SDS Number**: 4637959-00005  
**Date of last issue**: 10.10.2020  
**Date of first issue**: 09.07.2019

<table>
<thead>
<tr>
<th>Labels</th>
<th>:</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMDG</td>
<td>:</td>
<td>III</td>
</tr>
<tr>
<td>Packing group</td>
<td>:</td>
<td>III</td>
</tr>
<tr>
<td>Labels</td>
<td>:</td>
<td>3</td>
</tr>
<tr>
<td>EmS Code</td>
<td>:</td>
<td>F-E, S-E</td>
</tr>
<tr>
<td>IATA (Cargo)</td>
<td>:</td>
<td>366</td>
</tr>
<tr>
<td>Packing instruction (cargo aircraft)</td>
<td>:</td>
<td>Y344</td>
</tr>
<tr>
<td>Packing group (LQ)</td>
<td>:</td>
<td>III</td>
</tr>
<tr>
<td>Labels</td>
<td>:</td>
<td>Flammable Liquids</td>
</tr>
<tr>
<td>IATA (Passenger)</td>
<td>:</td>
<td>355</td>
</tr>
<tr>
<td>Packing instruction (passenger aircraft)</td>
<td>:</td>
<td>Y344</td>
</tr>
<tr>
<td>Packing group (LQ)</td>
<td>:</td>
<td>III</td>
</tr>
<tr>
<td>Labels</td>
<td>:</td>
<td>Flammable Liquids</td>
</tr>
</tbody>
</table>

### 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 Maritime transport in bulk according to IMO instruments

Remarks: Not applicable for product as supplied.

### SECTION 15: Regulatory information

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

| REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) | : Conditions of restriction for the following entries should be considered: Number on list 3 N-Methyl-2-pyrrolidone (Number on list 72, 71, 30) |
| REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). | : N-Methyl-2-pyrrolidone |
| REACH - List of substances subject to authorisation | : Not applicable |
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Fluazuron / Citronellal Formulation

Version 1.4  Revision Date: 09.04.2021  SDS Number: 4637959-00005  Date of last issue: 10.10.2020
Date of first issue: 09.07.2019

(Annex XIV)
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

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

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

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

15.2 Chemical safety assessment
A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

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.
EUH066 : Repeated exposure may cause skin dryness or cracking.

Full text of other abbreviations
Aquatic Acute : Short-term (acute) aquatic hazard
**SAFETY DATA SHEET**

according to Regulation (EC) No. 1907/2006

---

**Fluazuron / Citronellal 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>
<tbody>
<tr>
<td>1.4</td>
<td>09.04.2021</td>
<td>4637959-00005</td>
<td>10.10.2020</td>
<td>09.07.2019</td>
</tr>
</tbody>
</table>

| 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 2000/39/EC | : Specific target organ toxicity - single exposure |
| 2000/39/EC / STEL | : Limit Value - eight hours |
| 2009/161/EU / TWA | : Short term exposure limit |
| 2009/161/EU / STEL | : Limit Value - eight hours |
| FOR-2011-12-06-1358 / TWA | : Short term exposure limit |
| FOR-2011-12-06-1358 / STEL | : Long term exposure limit |
| FOR-2011-12-06-1358 / TWA | : Short term exposure limit |

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AIC - 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 - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50% of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

31 / 32
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Fluazuron / Citronellal Formulation

Version 1.4 Revision Date: 09.04.2021 SDS Number: 4637959-00005 Date of last issue: 10.10.2020

Date of first issue: 09.07.2019

Further information

Classification of the mixture: Classification procedure:
Flam. Liq. 3 H226 Based on product data or assessment
Skin Irrit. 2 H315 Calculation method
Eye Irrit. 2 H319 Calculation method
Skin Sens. 1 H317 Calculation method
Repr. 1B H360D Calculation method
STOT SE 3 H335 Calculation method
Aquatic Acute 1 H400 Calculation method
Aquatic Chronic 1 H410 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.

NO / EN