Deltamethrin (3%) Formulation

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

1.1 Product identifier
   Trade name : Deltamethrin (3%) Formulation

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

1.3 Details of the supplier of the safety data sheet
   Company : MSD
   Kilsheelan
   Clonmel Tipperary, IE
   Telephone : 353-51-601000
   E-mail address of person responsible for the SDS : EHSDATASTEWARD@msd.com

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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

   Classification (REGULATION (EC) No 1272/2008)
   Acute toxicity, Category 4 : H302: Harmful if swallowed.
   Acute toxicity, Category 4 : H332: Harmful if inhaled.
   Acute toxicity, Category 4 : H312: Harmful in contact with skin.
   Skin irritation, Category 2 : H315: Causes skin irritation.
   Serious eye damage, Category 1 : H318: Causes serious eye damage.
   Skin sensitisation, Category 1 : H317: May cause an allergic skin reaction.
   Reproductive toxicity, Category 2 : H361fd: Suspected of damaging fertility. Suspected of damaging the unborn child.
   Specific target organ toxicity - single exposure, Category 3 : H335: May cause respiratory irritation.
   Specific target organ toxicity - repeated exposure, Category 2 : H373: May cause damage to organs through prolonged or repeated exposure.
   Aspiration hazard, Category 1 : H304: May be fatal if swallowed and enters airways.
   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)
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

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Date of last issue: 13.01.2021  Date of first issue: 13.01.2021

Hazard pictograms:

Signal word: Danger

Hazard statements:

H226 Flammable liquid and vapour.
H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements:

Prevention:
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:
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P391 Collect spillage.

Hazardous components which must be listed on the label:
Xylene
Calcium dodecylbenzenesulphonate
Nonylphenol, ethoxylated
deltamethrin (ISO)

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: This substance/mixture contains components considered to have endocrine disrupting properties for environment, according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.
**SAFETY DATA SHEET**

according to Regulation (EC) No. 1907/2006

**Deltamethrin (3%) 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>1.1</td>
<td>12.10.2021</td>
<td>7731639-00002</td>
<td>13.01.2021</td>
<td>13.01.2021</td>
</tr>
</tbody>
</table>

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

Vapours may form explosive mixture with air.

### SECTION 3: Composition/information on ingredients

#### 3.2 Mixtures

<table>
<thead>
<tr>
<th>Components</th>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Registration number</th>
<th>Classification</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Xylene</td>
<td>1330-20-7</td>
<td>215-535-7</td>
<td>601-022-00-9</td>
<td></td>
<td>Flam. Liq. 3; H226 Acute Tox. 4; H332 Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 STOT RE 2; H373 (Auditory system) Asp. Tox. 1; H304 Aquatic Chronic 3; H412</td>
<td>&gt;= 70 - &lt; 90</td>
</tr>
<tr>
<td></td>
<td>Calcium dodecylbenzenesulphonate</td>
<td>26264-06-2</td>
<td>247-557-8</td>
<td></td>
<td></td>
<td>Acute toxicity estimate</td>
<td>&lt;= 3 - &lt; 10</td>
</tr>
<tr>
<td></td>
<td>Nonylphenol, ethoxylated</td>
<td>9016-45-9</td>
<td></td>
<td></td>
<td></td>
<td>Acute toxicity estimate</td>
<td>&lt;= 3 - &lt; 10</td>
</tr>
<tr>
<td></td>
<td>Deltamethrin (ISO)</td>
<td>52918-63-5</td>
<td>258-256-6</td>
<td></td>
<td></td>
<td>Acute Tox. 3; H301 Acute Tox. 3; H331</td>
<td>&gt;= 3 - &lt; 10</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.
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<tr>
<th>Version</th>
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<td>13.01.2021</td>
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</tbody>
</table>

- 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 immediately.
- If swallowed: If swallowed, DO NOT induce vomiting. If vomiting occurs have person lean forward. Call a physician or poison control centre immediately. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person.

### 4.2 Most important symptoms and effects, both acute and delayed

**Risks:**
- Harmful if swallowed, in contact with skin or if inhaled.
- May be fatal if swallowed and enters airways.
- Causes skin irritation.
- May cause an allergic skin reaction.
- Causes serious eye damage.
- May cause respiratory irritation.
- Suspected of damaging fertility. Suspected of damaging the unborn child.
- May cause damage to organs through prolonged or repeated exposure.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Treatment:** Treat symptomatically and supportively.

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

- **Suitable extinguishing media:** Water spray, Alcohol-resistant foam, Carbon dioxide (CO2), Dry chemical
- **Unsuitable extinguishing media:** High volume water jet

#### 5.2 Special hazards arising from the substance or mixture

- **Specific hazards during firefighting:** Do not use a solid water stream as it may scatter and spread fire. Flash back possible over considerable distance. Vapours may form explosive mixtures with air. Exposure to combustion products may be a hazard to health.
- **Hazardous combustion prod-**
  - Carbon oxides
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.
Do not breathe mist or vapours.
Do not swallow.
Do not get in eyes.
Wash skin thoroughly after handling.
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
Non-sparking tools should be used.
Keep container tightly closed.
Already sensitised individuals should consult their physician regarding working with respiratory irritants or sensitisers.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Take precautionary measures against static discharges.
Do not eat, drink or smoke when using this product.
Take care to prevent spills, waste and minimize release to the environment.

Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before re-use.
The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : 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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

<table>
<thead>
<tr>
<th>Occupational Exposure Limits</th>
<th>Components</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylene</td>
<td>1330-20-7</td>
<td>TWA</td>
<td>25 ppm 108 mg/m³</td>
<td>FOR-2011-12-06-1358</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>50 ppm 221 mg/m³</td>
<td>2000/39/EC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>100 ppm 442 mg/m³</td>
<td>2000/39/EC</td>
</tr>
<tr>
<td>Xylene</td>
<td>52918-63-5</td>
<td>TWA</td>
<td>15 µg/m³ (OEB 3)</td>
<td>Internal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wipe limit</td>
<td>150 µg/100 cm²</td>
<td>Internal</td>
</tr>
</tbody>
</table>

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>Xylene</td>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>221 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Inhalation</td>
<td>Acute systemic effects</td>
<td>442 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term local effects</td>
<td>221 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Inhalation</td>
<td>Acute local effects</td>
<td>442 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>212 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>65,3 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Inhalation</td>
<td>Acute systemic effects</td>
<td>260 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Inhalation</td>
<td>Long-term local effects</td>
<td>65,3 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Inhalation</td>
<td>Acute local effects</td>
<td>260 mg/m³</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Consumers</th>
<th>Skin contact</th>
<th>Long-term systemic effects</th>
<th>125 mg/kg bw/day</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ingestion</td>
<td>Long-term systemic effects</td>
<td>12.5 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>
</tr>
<tr>
<td>Workers</td>
<td>Dermal</td>
<td>Long-term systemic effects</td>
<td>0.5 mg/kg bw/day</td>
</tr>
<tr>
<td>Consumers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>0.86 mg/m3</td>
</tr>
<tr>
<td>Consumers</td>
<td>Dermal</td>
<td>Long-term systemic effects</td>
<td>0.25 mg/kg bw/day</td>
</tr>
<tr>
<td>Consumers</td>
<td>Ingestion</td>
<td>Long-term systemic effects</td>
<td>0.25 mg/kg bw/day</td>
</tr>
<tr>
<td>Calcium dodecylbenzenesulphonate</td>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
</tr>
<tr>
<td>Workers</td>
<td>Inhalation</td>
<td>Acute systemic effects</td>
<td>52 mg/m3</td>
</tr>
<tr>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term local effects</td>
<td>52 mg/m3</td>
</tr>
<tr>
<td>Workers</td>
<td>Inhalation</td>
<td>Acute local effects</td>
<td>52 mg/m3</td>
</tr>
<tr>
<td>Workers</td>
<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>57.2 mg/kg bw/day</td>
</tr>
<tr>
<td>Workers</td>
<td>Skin contact</td>
<td>Acute systemic effects</td>
<td>80 mg/kg bw/day</td>
</tr>
<tr>
<td>Workers</td>
<td>Skin contact</td>
<td>Long-term local effects</td>
<td>1.57 mg/kg bw/day</td>
</tr>
<tr>
<td>Workers</td>
<td>Skin contact</td>
<td>Acute local effects</td>
<td>1.57 mg/kg bw/day</td>
</tr>
<tr>
<td>Consumers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>26 mg/m3</td>
</tr>
<tr>
<td>Consumers</td>
<td>Inhalation</td>
<td>Acute systemic effects</td>
<td>26 mg/m3</td>
</tr>
<tr>
<td>Consumers</td>
<td>Inhalation</td>
<td>Acute local effects</td>
<td>26 mg/m3</td>
</tr>
<tr>
<td>Consumers</td>
<td>Inhalation</td>
<td>Long-term local effects</td>
<td>26 mg/m3</td>
</tr>
<tr>
<td>Consumers</td>
<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>28.6 mg/kg bw/day</td>
</tr>
<tr>
<td>Consumers</td>
<td>Skin contact</td>
<td>Acute systemic effects</td>
<td>40 mg/kg bw/day</td>
</tr>
<tr>
<td>Consumers</td>
<td>Skin contact</td>
<td>Acute local effects</td>
<td>0.787 mg/kg bw/day</td>
</tr>
<tr>
<td>Consumers</td>
<td>Skin contact</td>
<td>Long-term local effects</td>
<td>0.787 mg/kg bw/day</td>
</tr>
<tr>
<td>Consumers</td>
<td>Ingestion</td>
<td>Long-term systemic effects</td>
<td>13 mg/kg bw/day</td>
</tr>
<tr>
<td>Consumers</td>
<td>Ingestion</td>
<td>Acute systemic effects</td>
<td>13 mg/kg bw/day</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>Xylene</td>
<td>Fresh water</td>
<td>0.327 mg/l</td>
</tr>
<tr>
<td></td>
<td>Intermittent use/release</td>
<td>0.327 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>Sewage treatment plant</td>
</tr>
<tr>
<td>------------------</td>
<td>--------------</td>
<td>------------------------</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>Calcium dodecylbenzenesulphonate</td>
<td>Fresh water</td>
<td>0.28 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.458 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>27.5 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td></td>
<td>10 mg/m3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>20 mg/kg food</td>
<td></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
- Combined particulates and organic vapour type (A-P)

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>yellow</td>
</tr>
<tr>
<td>Odour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (liquids)</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper explosion limit / Upper flammability limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower explosion limit / Lower flammability limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>45 - 51 °C</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>4 - 5</td>
</tr>
<tr>
<td>Viscosity</td>
<td></td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>soluble</td>
</tr>
</tbody>
</table>
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</tr>
</tbody>
</table>

- **Partition coefficient:** Not applicable
- **Vapour pressure:** No data available
- **Relative density:** No data available
- **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
- **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
**Deltamethrin (3%) Formulation**

**SAFETY DATA SHEET**

according to Regulation (EC) No. 1907/2006

---

**Version** 1.1  
**Revision Date:** 12.10.2021  
**SDS Number:** 7731639-00002  
**Date of last issue:** 13.01.2021  
**Date of first issue:** 13.01.2021

---

**Eye contact**

Harmful if swallowed, in contact with skin or if inhaled.

**Product:**

- **Acute oral toxicity**  
  Acute toxicity estimate: 1.291 mg/kg  
  Method: Calculation method

- **Acute inhalation toxicity**  
  Acute toxicity estimate: 11.73 mg/l  
  Exposure time: 4 h  
  Test atmosphere: vapour  
  Method: Calculation method

- **Acute dermal toxicity**  
  Acute toxicity estimate: 1.347 mg/kg  
  Method: Calculation method

**Components:**

**Xylene:**

- **Acute oral toxicity**  
  LD50 (Rat): 3.523 mg/kg  

- **Acute inhalation toxicity**  
  Acute toxicity estimate: 11 mg/l  
  Exposure time: 4 h  
  Test atmosphere: vapour  
  Method: Expert judgement  
  Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

- **Acute dermal toxicity**  
  Acute toxicity estimate: 1.100 mg/kg  
  Method: Expert judgement  
  Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

**Calcium dodecylbenzenesulphonate:**

- **Acute oral toxicity**  
  LD50 (Rat): > 500 - 2.000 mg/kg  
  Method: OECD Test Guideline 401  
  Remarks: Based on data from similar materials  
  Acute toxicity estimate: 500.05 mg/kg  
  Method: Calculation method

- **Acute dermal toxicity**  
  LD50 (Rabbit): > 2.000 mg/kg  
  Method: OECD Test Guideline 402  
  Remarks: Based on data from similar materials

**Nonylphenol, ethoxylated:**

- **Acute oral toxicity**  
  LD50 (Rat): 500 - 2.000 mg/kg

**Deltamethrin (ISO):**

- **Acute oral toxicity**  
  LD50 (Rat): 66.7 mg/kg
Deltamethrin (3%) Formulation

<table>
<thead>
<tr>
<th>LD50 (Rat): 9 - 139 mg/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 (Mouse): 19 - 34 mg/kg</td>
</tr>
<tr>
<td>Acute inhalation toxicity: LC50 (Rat): 0,8 mg/l</td>
</tr>
<tr>
<td>Exposure time: 2 h</td>
</tr>
<tr>
<td>Test atmosphere: dust/mist</td>
</tr>
<tr>
<td>Acute dermal toxicity: LD50 (Rabbit): 2.000 mg/kg</td>
</tr>
<tr>
<td>LD50 (Rat): &gt; 800 mg/kg</td>
</tr>
<tr>
<td>Acute toxicity (other routes of administration): LD50 (Rat): 2,5 mg/kg</td>
</tr>
<tr>
<td>Application Route: Intravenous</td>
</tr>
<tr>
<td>LD50 (Mouse): 10 mg/kg</td>
</tr>
<tr>
<td>Application Route: Intraperitoneal</td>
</tr>
</tbody>
</table>

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:

Xylene:

| Species: Rabbit |
| Result: Skin irritation |

Calcium dodecylbenzenesulphonate:

| Species: Rabbit |
| Method: OECD Test Guideline 404 |
| Result: Skin irritation |
| Remarks: Based on data from similar materials |

Nonylphenol, ethoxylated:

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

deltamethrin (ISO):

| Species: Rabbit |
| 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 damage.

Components:

Xylene:
Species : Rabbit
Result : Irritation to eyes, reversing within 21 days

Calcium dodecylbenzenesulphonate:
Species : Rabbit
Method : OECD Test Guideline 405
Result : Irreversible effects on the eye
Remarks : Based on data from similar materials

Nonylphenol, ethoxylated:
Species : Rabbit
Method : OECD Test Guideline 405
Result : Irreversible effects on the eye

Deltamethrin (ISO):
Species : Rabbit
Result : Moderate 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:

Xylene:
Test Type : Local lymph node assay (LLNA)
Exposure routes : Skin contact
### Deltamethrin (3%) Formulation

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<thead>
<tr>
<th>Version</th>
<th>Revision Date</th>
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</tr>
</thead>
<tbody>
<tr>
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<td>12.10.2021</td>
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<td>Date of first issue: 13.01.2021</td>
</tr>
</tbody>
</table>

**Species:** Mouse  
**Result:** negative

#### Calcium dodecylbenzenesulphonate:
- **Test Type:** Maximisation Test  
- **Exposure routes:** Skin contact  
- **Species:** Guinea pig  
- **Method:** OECD Test Guideline 406  
- **Result:** negative  
- **Remarks:** Based on data from similar materials

#### Nonylphenol, ethoxylated:
- **Test Type:** Maximisation Test  
- **Exposure routes:** Skin contact  
- **Species:** Guinea pig  
- **Result:** negative  
- **Remarks:** Based on data from similar materials

#### Deltamethrin (ISO):
- **Test Type:** Maximisation Test  
- **Exposure routes:** Dermal  
- **Species:** Guinea pig  
- **Result:** negative  
- **Test Type:** Human repeat insult patch test (HRIPT)  
- **Exposure routes:** Dermal  
- **Species:** Humans  
- **Result:** positive

#### 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:

#### Xylene:
- **Genotoxicity in vitro:**  
  - **Test Type:** Bacterial reverse mutation assay (AMES)  
  - **Result:** negative  
  - **Test Type:** Chromosome aberration test in vitro  
  - **Result:** negative  
  - **Test Type:** In vitro mammalian cell gene mutation test  
  - **Result:** negative  
  - **Test Type:** In vitro sister chromatid exchange assay in mam-
Genotoxicity in vivo : Test Type: Rodent dominant lethal test (germ cell) (in vivo)
Species: Mouse
Application Route: Skin contact
Result: negative

### Calcium dodecylbenzenesulphonate:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative
Remarks: Based on data from similar materials

Test Type: In vitro mammalian cell gene mutation test
Result: negative
Remarks: Based on data from similar materials

Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

### Nonylphenol, ethoxylated:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Remarks: Based on data from similar materials

### Deltamethrin (ISO):

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: DNA Repair
Test system: Escherichia coli
Result: negative

Test Type: Chromosomal aberration
Test system: Chinese hamster ovary cells
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Test system: Chinese hamster lung cells
Concentration: LOAEL: 20 mg/kg
Result: positive

malian cells
Result: negative
Genotoxicity in vivo:
- Test Type: Micronucleus test
  - Species: Mouse
  - Application Route: Oral
  - Result: negative

- Test Type: dominant lethal test
  - Species: Mouse
  - Application Route: Oral
  - Result: negative

- Test Type: sister chromatid exchange assay
  - Species: Mouse
  - Cell type: Bone marrow
  - Application Route: Oral
  - Result: negative

2,6-Di-tert-butyl-p-cresol:
Genotoxicity in vitro:
- Test Type: Bacterial reverse mutation assay (AMES)
  - Result: negative

- Test Type: In vitro mammalian cell gene mutation test
  - Result: negative

- Test Type: Chromosome aberration test in vitro
  - Result: negative

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

Carcinogenicity:
Not classified based on available information.

Components:

Xylene:
- Species: Rat
- Application Route: Ingestion
- Exposure time: 103 weeks
- Result: negative

deltamethrin (ISO):
- Species: Mouse, male and female
- Application Route: oral (feed)
- Exposure time: 104 weeks
- NOAEL: 8 mg/kg body weight
- LOAEL: 4 mg/kg body weight
- Result: positive
- Target Organs: Lymph nodes
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Deltamethrin (3%) Formulation

Species: Rat, male and female
Application Route: oral (feed)
Exposure time: 2 Years
Result: negative

Species: Dog, male and female
Application Route: oral (feed)
Exposure time: 2 Years
NOAEL: 1 mg/kg body weight
Result: negative

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

Reproductive toxicity
Suspected of damaging fertility. Suspected of damaging the unborn child.

Components:

Xylene:
Effects on fertility: Test Type: One-generation reproduction toxicity study
Species: Rat
Application Route: inhalation (vapour)
Result: negative

Effects on foetal development: Test Type: Embry-o-foetal development
Species: Rat
Application Route: inhalation (vapour)
Result: negative

Calcium dodecylbenzenesulphonate:
Effects on fertility: Test Type: Combined repeated dose toxicity study with the
reproduction/developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 422
Result: negative
Remarks: Based on data from similar materials

Effects on foetal development: Test Type: Combined repeated dose toxicity study with the
reproduction/developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 422
Result: negative
Remarks: Based on data from similar materials

deltamethrin (ISO):
Deltamethrin (3%) Formulation

Effects on fertility:
- Test Type: Three-generation reproduction toxicity study
  - Species: Rat
  - Application Route: oral (feed)
  - Early Embryonic Development: NOAEL: 50 mg/kg body weight
  - Symptoms: No effects on fertility, Embryo-foetal toxicity
- Test Type: Two-generation reproduction toxicity study
  - Species: Rat
  - Application Route: Oral
  - Early Embryonic Development: LOAEL: 84 - 149 mg/kg body weight
  - Symptoms: No effects on fertility, Embryo-foetal toxicity
- Test Type: Fertility
  - Species: Rat, male
  - Application Route: Oral
  - Fertility: LOAEL: 1 mg/kg body weight
  - Symptoms: Effects on fertility
  - Target Organs: Testes

Effects on foetal development:
- Test Type: Development
  - Species: Mouse
  - Application Route: oral (gavage)
  - Developmental Toxicity: LOAEL: 1 mg/kg body weight
  - Result: Skeletal malformations
  - Remarks: Maternal toxicity observed.
- Test Type: Development
  - Species: Rat, female
  - Developmental Toxicity: NOAEL: 10 mg/kg body weight
  - Symptoms: No effects on foetal development
- Test Type: Development
  - Species: Rabbit, female
  - Application Route: oral (gavage)
  - Developmental Toxicity: NOAEL: 16 mg/kg body weight
  - Symptoms: No effects on foetal development

Reproductive toxicity - Assessment:
- Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

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:

Xylene:
Assessment : May cause respiratory irritation.

deltamethrin (ISO):
Assessment : May cause respiratory irritation.

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

Components:

Xylene:
Exposure routes : inhalation (vapour)
Target Organs : Auditory system
Assessment : Shown to produce significant health effects in animals at concentrations of >0.2 to 1 mg/l/6h/d.

Calcium dodecylbenzenesulphonate:
Assessment : No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.

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

Exposure routes : inhalation (dust/mist/fume)
Target Organs : Central nervous system
Assessment : Causes damage to organs through prolonged or repeated exposure.

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

Repeated dose toxicity

Components:

Xylene:
Species : Rat
LOAEL : > 0.2 - 1 mg/l
Application Route : inhalation (vapour)
### Deltamethrin (3%) Formulation

<table>
<thead>
<tr>
<th>Exposure time</th>
<th>Remarks</th>
<th>Species</th>
<th>LOAEL</th>
<th>Application Route</th>
<th>Exposure time</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 Weeks</td>
<td></td>
<td>Rat</td>
<td>150 mg/kg</td>
<td>Ingestion</td>
<td>90 Days</td>
<td>OECD Test Guideline 422</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

**Calcium dodecylbenzenesulphonate:**

<table>
<thead>
<tr>
<th>Species</th>
<th>LOAEL</th>
<th>Application Route</th>
<th>Exposure time</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rat</td>
<td>&gt; 200 mg/kg</td>
<td>Ingestion</td>
<td>6 - 7 Weeks</td>
<td>OECD Test Guideline 422</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

**deltamethrin (ISO):**

<table>
<thead>
<tr>
<th>Species</th>
<th>NOAEL</th>
<th>LOAEL</th>
<th>Application Route</th>
<th>Exposure time</th>
<th>Target Organs</th>
<th>Symptoms</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rat, male and female</td>
<td>1 mg/kg</td>
<td>2.5 mg/kg</td>
<td>Oral</td>
<td>13 Weeks</td>
<td>Nervous system</td>
<td>hyperexcitability</td>
<td>Based on data from similar materials</td>
</tr>
<tr>
<td>Rat</td>
<td>3 mg/m3</td>
<td>inhalation (dust/mist/fume)</td>
<td>2 wk / 5 d/wk / 6 h/d</td>
<td>Local irritation, respiratory tract irritation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dog</td>
<td>0.1 mg/kg</td>
<td>Oral</td>
<td>13 Weeks</td>
<td>Nervous system</td>
<td>Dilatation of the pupil, Vomiting, Tremors, Diarrhoea, Salivation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Species</th>
<th>NOAEL</th>
<th>LOAEL</th>
<th>Application Route</th>
<th>Exposure time</th>
<th>Target Organs</th>
<th>Symptoms</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rat</td>
<td>14 mg/kg</td>
<td>54 mg/kg</td>
<td>Oral</td>
<td>91 d</td>
<td>Nervous system</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Deltamethrin (3%) Formulation

<table>
<thead>
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<td>13.01.2021</td>
</tr>
</tbody>
</table>

- **Species**: Mouse
- **LOAEL**: 6 mg/kg
- **Application Route**: Oral
- **Exposure time**: 12 Weeks
- **Target Organs**: Immune system
- **Symptoms**: immune system effects

### 2,6-Di-tert-butyl-p-cresol:
- **Species**: Rat
- **NOAEL**: 25 mg/kg
- **Application Route**: Ingestion
- **Exposure time**: 22 Months

**Aspiration toxicity**
May be fatal if swallowed and enters airways.

### Components:

#### Xylene:
The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

### 11.2 Information on other hazards

#### Endocrine disrupting properties

**Product:**

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

### Experience with human exposure

**Components:**

#### Deltamethrin (ISO):

- **Inhalation**: Symptoms: respiratory tract irritation, Dizziness, Sweating, Headache, Nausea, Vomiting, anorexia, Fatigue, tingling, Palpitation, Blurred vision, muscle twitching
- **Skin contact**: Symptoms: Skin irritation, Erythema, pruritis, Headache, Nausea, Vomiting, Dizziness, tingling, Sweating, muscle twitching, Blurred vision, Fatigue, anorexia, Allergic reactions
- **Ingestion**: Symptoms: muscle pain, Small pupils
SECTION 12: Ecological information

12.1 Toxicity

**Components:**

**Xylene:**

- **Toxicity to fish:** LC50 (Oncorhynchus mykiss (rainbow trout)): 13,5 mg/l Exposure time: 96 h
- **Toxicity to daphnia and other aquatic invertebrates:** EC50 (Daphnia magna (Water flea)): > 1 - 10 mg/l Exposure time: 24 h Method: OECD Test Guideline 202 Remarks: Based on data from similar materials
- **Toxicity to algae/aquatic plants:** EC50 (Skeletonema costatum (marine diatom)): 10 mg/l Exposure time: 72 h
- **Toxicity to microorganisms:** NOEC: > 100 mg/l Exposure time: 3 h Method: OECD Test Guideline 209 Remarks: Based on data from similar materials
- **Toxicity to fish (Chronic toxicity):** NOEC: > 0,1 - < 1 mg/l Exposure time: 35 d Species: Danio rerio (zebra fish) Method: OECD Test Guideline 210 Remarks: Based on data from similar materials
- **Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):** EL10: > 1 - 10 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211 Remarks: Based on data from similar materials

**Calcium dodecylbenzenesulphonate:**

- **Toxicity to fish:** LC50 (Leuciscus idus (Golden orfe)): > 1 - 10 mg/l Exposure time: 96 h Remarks: Based on data from similar materials
- **Toxicity to daphnia and other aquatic invertebrates:** EC50 (Daphnia magna (Water flea)): > 1 - 10 mg/l Exposure time: 48 h Remarks: Based on data from similar materials
- **Toxicity to algae/aquatic plants:** ErC50 (Pseudokirchneriella subcapitata (green algae)): > 10 - 100 mg/l Exposure time: 72 h Remarks: Based on data from similar materials
- **NOEC (Pseudokirchneriella subcapitata (green algae)):** > 0,1 - 1 mg/l Exposure time: 72 h Remarks: Based on data from similar materials
### Deltamethrin (3%) Formulation

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</tbody>
</table>

#### Toxicity to microorganisms

<table>
<thead>
<tr>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>OECD Test Guideline 209</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

EC50 (activated sludge): > 100 mg/l
Exposure time: 3 h

#### Toxicity to fish (Chronic toxicity)

<table>
<thead>
<tr>
<th>NOEC</th>
<th>Exposure time</th>
<th>Species</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 0,1 - 1 mg/l</td>
<td>28 d</td>
<td>Pimephales promelas (fathead minnow)</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>NOEC</th>
<th>Exposure time</th>
<th>Species</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 1 mg/l</td>
<td>21 d</td>
<td>Daphnia magna (Water flea)</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

#### Nonylphenol, ethoxylated:

<table>
<thead>
<tr>
<th>EC50</th>
<th>Exposure time</th>
<th>Species</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daphnia sp. (water flea): 1,82 mg/l</td>
<td>48 h</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pseudokirchneriella subcapitata (green algae): 20 mg/l</td>
<td>48 h</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Deltamethrin (ISO):

<table>
<thead>
<tr>
<th>LC50</th>
<th>Exposure time</th>
<th>Species</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Cyprinodon variegatus (sheepshead minnow)): 0,00048 mg/l</td>
<td>96 h</td>
<td></td>
<td>No toxicity at the limit of solubility</td>
</tr>
<tr>
<td>(Oncorhynchus mykiss (rainbow trout)): 0,00039 mg/l</td>
<td>96 h</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EC50</th>
<th>Exposure time</th>
<th>Species</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Mysis bahanica (opossum shrimp)): 0,0037 µg/l</td>
<td>48 h</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Daphnia magna (Water flea)): 0,0035 mg/l</td>
<td>48 h</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Gammarus fasciatus (freshwater shrimp)): 0,0003 µg/l</td>
<td>96 h</td>
<td></td>
<td></td>
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</tbody>
</table>

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<thead>
<tr>
<th>EC50</th>
<th>Exposure time</th>
<th>Species</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Pseudokirchneriella subcapitata (green algae)): &gt; 9,1 mg/l</td>
<td>72 h</td>
<td>OECD Test Guideline 201 No toxicity at the limit of solubility</td>
<td></td>
</tr>
</tbody>
</table>

#### M-Factor (Acute aquatic toxicity)

<table>
<thead>
<tr>
<th>M-Factor</th>
<th>Remarks</th>
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<tbody>
<tr>
<td>1.000.000</td>
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</tbody>
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#### Toxicity to fish (Chronic toxicity)

<table>
<thead>
<tr>
<th>NOEC</th>
<th>Exposure time</th>
<th>Species</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0,000022 mg/l</td>
<td>36 d</td>
<td>Pimephales promelas (fathead minnow)</td>
<td></td>
</tr>
</tbody>
</table>
Deltamethrin (3%) Formulation

NOEC: 0,000017 mg/l
Exposure time: 260 d
Species: Pimephales promelas (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):
- NOEC: 0,0041 µg/l
- Exposure time: 21 d
- Species: Daphnia magna (Water flea)

M-Factor (Chronic aquatic toxicity): 1.000.000

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:

Xylene:
- Biodegradability: Result: Readily biodegradable.
Deltamethrin (3%) Formulation

Biodegradation: > 70 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
Remarks: Based on data from similar materials

Calcium dodecylbenzenesulphonate:
Biodegradability: Result: Readily biodegradable.
Remarks: Based on data from similar materials

Nonylphenol, ethoxylated:
Biodegradability: Result: Readily biodegradable.
Biodegradation: 97 %
Exposure time: 30 d

Deltamethrin (ISO):
Stability in water: Hydrolysis: 0 % (30 d)

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

12.3 Bioaccumulative potential

Components:

Xylene:
Partition coefficient: n-octanol/water: log Pow: 3.16
Remarks: Calculation

Calcium dodecylbenzenesulphonate:
Bioaccumulation: Bioconcentration factor (BCF): < 500
Remarks: Based on data from similar materials

Partition coefficient: n-octanol/water: log Pow: 4.77
Remarks: Calculation

Nonylphenol, ethoxylated:
Partition coefficient: n-octanol/water: log Pow: 4.48

Deltamethrin (ISO):
Bioaccumulation: Species: Lepomis macrochirus (Bluegill sunfish)
Bioconcentration factor (BCF): 1.800

Partition coefficient: n-octanol/water: log Pow: 4.6

2,6-Di-tert-butyl-p-cresol:
Deltamethrin (3%) Formulation

Bioaccumulation:
Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 330 - 1.800

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

12.4 Mobility in soil

Components:
deltamethrin (ISO):
Distribution among environmental compartments
log Koc: 7,2

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.

Components:
Nonylphenol, ethoxylated:
Assessment: This substance is considered to be persistent, bioaccumulating and toxic (PBT). This substance is considered to be very persistent and very bioaccumulating (vPvB).

12.6 Endocrine disrupting properties

Product:
Assessment: This substance/mixture contains components considered to have endocrine disrupting properties for environment, according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

Components:
Nonylphenol, ethoxylated:
Assessment: The substance is considered to have endocrine disrupting properties according to REACH Article 57(f) for the environment.

12.7 Other adverse effects
No data available

SECTION 13: Disposal considerations

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

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

SECTION 14: Transport information

14.1 UN number or ID number

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

14.2 UN proper shipping name

ADN: FLAMMABLE LIQUID, N.O.S. (Xylene)
ADR: FLAMMABLE LIQUID, N.O.S. (Xylene)
RID: FLAMMABLE LIQUID, N.O.S. (Xylene)
IMDG: FLAMMABLE LIQUID, N.O.S. (Xylene, deltamethrin (ISO), 2,6-Di-tert-butyl-p-cresol)
IATA: Flammable liquid, n.o.s. (Xylene)

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
Deltamethrin (3%) Formulation

Version 1.1
Revision Date: 12.10.2021
SDS Number: 7731639-00002
Date of last issue: 13.01.2021
Date of first issue: 13.01.2021

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 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
Nonylphenol, ethoxylated (Number on list 46b, 46a.)

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).
REACH - List of substances subject to authorisation (Annex XIV):
Nonylphenol, ethoxylated

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:
Nonylphenol, ethoxylated


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

| P5c FLAMMABLE LIQUIDS | 5.000 t | 50.000 t |

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.
Deltamethrin (3%) Formulation

Full text of H-Statements

H226 : Flammable liquid and vapour.
H301 : Toxic if swallowed.
H302 : Harmful if swallowed.
H304 : May be fatal if swallowed and enters airways.
H312 : Harmful in contact with skin.
H315 : Causes skin irritation.
H317 : May cause an allergic skin reaction.
H318 : Causes serious eye irritation.
H331 : Toxic if inhaled.
H332 : Harmful if inhaled.
H335 : May cause respiratory irritation.
H361fd : Suspected of damaging fertility. Suspected of damaging the unborn child.
H372 : Causes damage to organs through prolonged or repeated exposure if inhaled.
H372 : Causes damage to organs through prolonged or repeated exposure if swallowed.
H373 : May cause damage to organs through prolonged or repeated exposure.
H400 : Very toxic to aquatic life.
H410 : Very toxic to aquatic life with long lasting effects.
H411 : Toxic to aquatic life with long lasting effects.
H412 : Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox. : Acute toxicity
Aquatic Acute : Short-term (acute) aquatic hazard
Aquatic Chronic : Long-term (chronic) aquatic hazard
Asp. Tox. : Aspiration hazard
Eye Dam. : Serious eye damage
Eye Irrit. : Eye irritation
Flam. Liq. : Flammable liquids
Repr. : Reproductive toxicity
Skin Irrit. : Skin irritation
Skin Sens. : Skin sensitisation
STOT RE : Specific target organ toxicity - repeated exposure
STOT SE : Specific target organ toxicity - single exposure
FOR-2011-12-06-1358 : Norway. Occupational Exposure limits
2000/39/EC / TWA : Limit Value - eight hours
2000/39/EC / STEL : Short term exposure limit
FOR-2011-12-06-1358 / TWA : Long term exposure limit

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; 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; 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

Further information

<table>
<thead>
<tr>
<th>Classification of the mixture</th>
<th>Classification procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flam. Liq. 3</td>
<td>H226</td>
</tr>
<tr>
<td>Acute Tox. 4</td>
<td>H302</td>
</tr>
<tr>
<td>Acute Tox. 4</td>
<td>H332</td>
</tr>
<tr>
<td>Acute Tox. 4</td>
<td>H312</td>
</tr>
<tr>
<td>Skin Irrit. 2</td>
<td>H315</td>
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<tr>
<td>Eye Dam. 1</td>
<td>H318</td>
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<tr>
<td>Skin Sens. 1</td>
<td>H317</td>
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<tr>
<td>Repr. 2</td>
<td>H361fd</td>
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<tr>
<td>STOT SE 3</td>
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<tr>
<td>STOT RE 2</td>
<td>H373</td>
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<tr>
<td>Asp. Tox. 1</td>
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<tr>
<td>Aquatic Acute 1</td>
<td>H400</td>
</tr>
<tr>
<td>Aquatic Chronic 1</td>
<td>H410</td>
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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
<table>
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<th>Revision Date:</th>
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<td>7731639-00002</td>
<td>13.01.2021</td>
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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