Deltamethrin (with Xylene) Formulation

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

1.1 Product identifier
Trade name : Deltamethrin (with Xylene) Formulation

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

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

1.4 Emergency telephone number
1-908-423-6000

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification (REGULATION (EC) No 1272/2008)

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H226</td>
<td>Flammable liquid and vapour.</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td>H332</td>
<td>Harmful if inhaled.</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>H317</td>
<td>May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>H340</td>
<td>May cause genetic defects.</td>
</tr>
<tr>
<td>H350</td>
<td>May cause cancer.</td>
</tr>
<tr>
<td>H361fd</td>
<td>Suspected of damaging fertility. Suspected of damaging the unborn child.</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation.</td>
</tr>
<tr>
<td>H373</td>
<td>May cause damage to organs through prolonged or repeated exposure.</td>
</tr>
<tr>
<td>H304</td>
<td>May be fatal if swallowed and enters airways.</td>
</tr>
<tr>
<td>H400</td>
<td>Very toxic to aquatic life.</td>
</tr>
<tr>
<td>H410</td>
<td>Very toxic to aquatic life with long lasting effects.</td>
</tr>
</tbody>
</table>
2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms:

Signal word: Danger

Hazard statements:
- H226 Flammable liquid and vapour.
- H302 + H332 Harmful if swallowed or inhaled.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.
- H340 May cause genetic defects.
- H350 May cause cancer.
- 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:**
- P201 Obtain special instructions before use.
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.

**Response:**
- P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
- P391 Collect spillage.

Hazardous components which must be listed on the label:
- Ethylbenzene
- Xylene
- Deltamethrin (ISO)
- Solvent naphtha (petroleum), light aromatic

Additional Labelling:

Restricted to professional users.

2.3 Other hazards

Vapours may form explosive mixture with air.
### SECTION 3: Composition/information on ingredients

#### 3.2 Mixtures

**Components**

<table>
<thead>
<tr>
<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>Ethylbenzene</td>
<td>100-41-4</td>
<td>202-849-4</td>
<td>601-023-00-4</td>
<td></td>
<td>Flam. Liq.2; H225 Acute Tox.4; H332 STOT RE2; H373 Asp. Tox.1; H304 Aquatic Chronic3; H412</td>
<td>&gt;= 30 - &lt; 50</td>
</tr>
<tr>
<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 SE3; H335 STOT RE2; H373 Asp. Tox.1; H304 Aquatic Chronic3; H412</td>
<td>&gt;= 30 - &lt; 50</td>
</tr>
<tr>
<td>4-Nonylphenol, branched, ethoxylated</td>
<td>127087-87-0</td>
<td></td>
<td></td>
<td></td>
<td>Aquatic Chronic3; H412</td>
<td>&gt;= 10 - &lt; 20</td>
</tr>
<tr>
<td>Deltamethrin (ISO)</td>
<td>52918-63-5</td>
<td>258-256-6</td>
<td>607-319-00-X</td>
<td></td>
<td>Acute Tox.3; H301 Acute Tox.3; H331 Eye Irrit.2; H319 Skin Sens.1A; H317 Repr.2; H361fd STOT SE3; H352 STOT RE1; H372 STOT RE1; H372 Aquatic Acute1; H400 Aquatic Chronic1; H410</td>
<td>&gt;= 3 - &lt; 10</td>
</tr>
<tr>
<td>2,6-Di-tert-butyl-p-cresol</td>
<td>128-37-0</td>
<td>204-881-4</td>
<td></td>
<td></td>
<td>Aquatic Acute1; H400 Aquatic Chronic1; H410</td>
<td>&gt;= 2.5 - &lt; 10</td>
</tr>
</tbody>
</table>

**M-Factor (Acute aquatic toxicity):** 1.000.000
**M-Factor (Chronic aquatic toxicity):** 1.000.000
**SAFETY DATA SHEET**

according to Regulation (EC) No. 1907/2006

**Deltamethrin (with Xylene) 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>2.3</td>
<td>24.03.2020</td>
<td>2972625-00006</td>
<td>13.09.2019</td>
<td>02.07.2018</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Solvent naphtha (petroleum), light aromatic</th>
<th></th>
<th>aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>64742-95-6</td>
<td>Flam. Liq.3; H226</td>
<td></td>
</tr>
<tr>
<td>265-199-0</td>
<td>Skin Irrit.2; H315</td>
<td></td>
</tr>
<tr>
<td>649-356-00-4</td>
<td>Muta.1B; H340</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Carc.1B; H350</td>
<td></td>
</tr>
<tr>
<td></td>
<td>STOT SE3; H336</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Asp. Tox.1; H304</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aquatic Chronic2; H411</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;= 0,25 - &lt; 1</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Methanol</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>67-56-1</td>
<td>Flam. Liq.2; H225</td>
<td></td>
</tr>
<tr>
<td>200-659-6</td>
<td>Acute Tox.3; H301</td>
<td></td>
</tr>
<tr>
<td>603-001-00-X</td>
<td>Acute Tox.3; H331</td>
<td></td>
</tr>
<tr>
<td>01-2119433307-44</td>
<td>Acute Tox.3; H311</td>
<td></td>
</tr>
<tr>
<td></td>
<td>STOT SE1; H370</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;= 0,1 - &lt; 1</td>
<td></td>
</tr>
</tbody>
</table>

For explanation of abbreviations see section 16.

**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.
If not breathing, give artificial respiration.
If breathing is difficult, give oxygen.
Get medical attention.

**In case of skin contact**
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Get medical attention.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.

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

**If swallowed**
If swallowed, DO NOT induce vomiting.
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 or if inhaled.
- May be fatal if swallowed and enters airways.
- Causes skin irritation.
- May cause an allergic skin reaction.
- Causes serious eye irritation.
- May cause respiratory irritation.
- May cause genetic defects.
- May cause cancer.
- 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 products:
- Carbon oxides
- Nitrogen oxides (NOx)
- Bromine 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 and personal protective equipment recommendations.

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

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

6.4 Reference to other sections
See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Technical measures: 
See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

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

Advice on safe handling: 
- Do not get on skin or clothing.
- Do not breathe vapours or spray mist.
- Do not swallow.
Do not get in eyes. Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment. Non-sparking tools should be used. Keep container tightly closed. Already sensitised individuals should consult their physician regarding working with respiratory irritants or sensitisers. Keep away from heat and sources of ignition. Take precautionary measures against static discharges. Take care to prevent spills, waste and minimize release to the environment.

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

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>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>Ethylbenzene</td>
<td>100-41-4</td>
<td>TWA</td>
<td>5 ppm, 20 mg/m3</td>
<td>FOR-2011-12-06-1358</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>Ethylbenzene</td>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>77 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Inhalation</td>
<td>Acute local effects</td>
<td>293 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>180 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>15 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Ingestion</td>
<td>Long-term systemic effects</td>
<td>1.6 mg/kg bw/day</td>
</tr>
<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>Acute local effects</td>
<td></td>
<td>442 mg/m³</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Deltamethrin (with Xylene) Formulation

<table>
<thead>
<tr>
<th>Substance name</th>
<th>Environmental Compartment</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylbenzene</td>
<td>Fresh water</td>
<td>0,1 mg/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.

**Personal protective equipment**

<table>
<thead>
<tr>
<th>Eye protection</th>
<th>Wear safety glasses with side shields or goggles.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>If the work environment or activity involves dusty conditions,</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>Freshwater</th>
<th>Marine water</th>
<th>Sewage treatment plant</th>
<th>Freshwater sediment</th>
<th>Marine sediment</th>
<th>Soil</th>
<th>Oral (Secondary Poisoning)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshwater - intermittent</td>
<td>0.1 mg/l</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marine water</td>
<td>0.01 mg/l</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xylene</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fresh water</td>
<td>0.327 mg/l</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intermittent use/release</td>
<td>0.327 mg/l</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marine water</td>
<td>0.327 mg/l</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sewage treatment plant</td>
<td>6.58 mg/l</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fresh water sediment</td>
<td>12.46 mg/kg dry weight (d.w.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marine sediment</td>
<td>12.46 mg/kg dry weight (d.w.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soil</td>
<td>2.31 mg/kg dry weight (d.w.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2,6-Di-tert-butyl-p-cresol</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fresh water</td>
<td>0.199 µg/l</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intermittent use/release</td>
<td>0.02 µg/l</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marine water</td>
<td>0.02 µg/l</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sewage treatment plant</td>
<td>0.17 mg/l</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fresh water sediment</td>
<td>0.0996 mg/kg dry weight (d.w.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marine sediment</td>
<td>0.00996 mg/kg dry weight (d.w.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soil</td>
<td>0.04769 mg/kg dry weight (d.w.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methanol</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fresh water</td>
<td>20.8 mg/l</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marine water</td>
<td>2.08 mg/l</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intermittent use/release</td>
<td>1540 mg/l</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sewage treatment plant</td>
<td>100 mg/l</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fresh water sediment</td>
<td>77 mg/kg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marine sediment</td>
<td>7.7 mg/kg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soil</td>
<td>100 mg/kg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
mists or aerosols, wear the appropriate goggles. Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols.

Hand protection

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

Skin and body protection

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

Material : 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

Appearance : liquid
Colour : clear yellow
Odour : No data available
Odour Threshold : No data available
pH : No data available
Melting point/freezing point : No data available
Initial boiling point and boiling range : No data available
Flash point : 38 °C
Evaporation rate : No data available
Flammability (solid, gas) : Not applicable
Upper explosion limit / Upper flammability limit : No data available
Lower explosion limit / Lower flammability limit : No data available
Vapour pressure : No data available
Relative vapour density : No data available
Deltamethrin (with Xylene) Formulation

Relative density : No data available
Density : No data available

Solubility(ies) : No data available
Water solubility : No data available
Partition coefficient: n-octanol/water : Not applicable
Auto-ignition temperature : No data available
Decomposition temperature : No data available

Viscosity
  Viscosity, kinematic : No data available

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

9.2 Other information
  Flammability (liquids) : Not applicable
  Molecular weight : No data available
  Particle size : Not applicable

SECTION 10: Stability and reactivity

10.1 Reactivity
  Not classified as a reactivity hazard.

10.2 Chemical stability
  Stable under normal conditions.

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

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

10.5 Incompatible materials
  Materials to avoid : Oxidizing agents

10.6 Hazardous decomposition products
  No hazardous decomposition products are known.
SECTION 11: Toxicological information

11.1 Information on toxicological effects

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

Acute toxicity
Harmful if swallowed or if inhaled.

Product:

- **Acute oral toxicity**
  - Acute toxicity estimate: 1.314 mg/kg
  - Method: Calculation method

- **Acute inhalation toxicity**
  - Acute toxicity estimate: 13.69 mg/l
  - Exposure time: 4 h
  - Test atmosphere: vapour
  - Method: Calculation method

- **Acute dermal toxicity**
  - Acute toxicity estimate: > 2.000 mg/kg
  - Method: Calculation method

Components:

**Ethylbenzene:**

- **Acute oral toxicity**
  - LD50 (Rat): 3.500 mg/kg

- **Acute inhalation toxicity**
  - LC50 (Rat): 17.8 mg/l
  - Exposure time: 4 h
  - Test atmosphere: vapour

- **Acute dermal toxicity**
  - LD50 (Rabbit): > 5.000 mg/kg

**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

4-Nonylphenol, branched, ethoxylated:
Deltamethrin (with Xylene) Formulation

Acute oral toxicity: LD50 (Mouse): 4.290 mg/kg

Deltamethrin (ISO):
Acute oral toxicity: LD50 (Rat): 66.7 mg/kg
LD50 (Rat): 9 - 139 mg/kg
LD50 (Mouse): 19 - 34 mg/kg

Acute inhalation toxicity: LC50 (Rat): 0.8 mg/l
Exposure time: 2 h
Test atmosphere: dust/mist

Acute dermal toxicity: LD50 (Rabbit): 2.000 mg/kg
LD50 (Rat): > 800 mg/kg

Acute toxicity (other routes of administration):
LD50 (Rat): 2.5 mg/kg
Application Route: Intravenous
LD50 (Mouse): 10 mg/kg
Application Route: Intraperitoneal

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

Solvent naphtha (petroleum), light aromatic:
Acute oral toxicity: LD50 (Rat): > 5.000 mg/kg

Acute inhalation toxicity: LC50 (Rat): > 5.61 mg/l
Exposure time: 4 h
Test atmosphere: vapour

Acute dermal toxicity: LD50 (Rabbit): > 2.000 mg/kg

Methanol:
Acute oral toxicity: Acute toxicity estimate (Humans): 300 mg/kg
Method: Expert judgement

Acute inhalation toxicity: Acute toxicity estimate: 3 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: 300 mg/kg (Humans)
Method: Expert judgement

Skin corrosion/irritation
Causes skin irritation.

Components:

Xylene:
Species: Rabbit
Result: Skin irritation

Deltamethrin (ISO):
Species: Rabbit
Result: No skin irritation

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

Solvent naphtha (petroleum), light aromatic:
Species: Rabbit
Method: OECD Test Guideline 404
Result: Skin irritation

Methanol:
Species: Rabbit
Result: No skin irritation

Serious eye damage/eye irritation
Causes serious eye irritation.

Components:

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

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

**Solvent naphtha (petroleum), light aromatic:**
Species: Rabbit
Method: OECD Test Guideline 405
Result: No eye irritation

**Methanol:**
Species: Rabbit
Result: No eye irritation

**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
Species: Mouse
Result: negative

**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

**Solvent naphtha (petroleum), light aromatic:**
Test Type: Buehler Test
Exposure routes: Skin contact
Species: Guinea pig
Result: negative
## Safety Data Sheet

**Deltamethrin (with Xylene) Formulation**

<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date</th>
<th>SDS Number</th>
<th>Date of last issue: 13.09.2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.3</td>
<td>24.03.2020</td>
<td>2972625-00006</td>
<td>Date of first issue: 02.07.2018</td>
</tr>
</tbody>
</table>

### Methanol:
- **Test Type**: Maximisation Test
- **Exposure routes**: Skin contact
- **Species**: Guinea pig
- **Result**: negative

### Germ cell mutagenicity
May cause genetic defects.

### Components:

#### Ethylbenzene:
- **Genotoxicity in vitro**
  - **Test Type**: Bacterial reverse mutation assay (AMES)
  - **Result**: negative
  - **Method**: OECD Test Guideline 476
  - **Result**: negative
  - **Test Type**: Chromosome aberration test in vitro
  - **Result**: negative

#### Genotoxicity in vivo
- **Test Type**: Unscheduled DNA synthesis (UDS) test with mammalian liver cells in vivo
  - **Species**: Mouse
  - **Application Route**: Inhalation
  - **Method**: OECD Test Guideline 486
  - **Result**: negative

#### 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 mammalian cells
  - **Result**: negative

#### Genotoxicity in vivo
- **Test Type**: Rodent dominant lethal test (germ cell) (in vivo)
  - **Species**: Mouse
  - **Application Route**: Skin contact
  - **Result**: negative

#### 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

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

Solvent naphtha (petroleum), light aromatic:
Genotoxicity in vitro
: Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Result: positive

Genotoxicity in vivo
: Test Type: Sister chromatid exchange analysis in spermato-
SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Deltamethrin (with Xylene) Formulation

gonia  
Species: Mouse  
Application Route: Intraperitoneal injection  
Result: positive

Germ cell mutagenicity- Assessment  :  Positive result(s) from in vivo heritable germ cell mutagenicity tests in mammals

Methanol:
Genotoxicity in vitro  :  Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative

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

Genotoxicity in vivo  :  Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Mouse  
Application Route: Intraperitoneal injection  
Result: negative

Carcinogenicity
May cause cancer.

Components:

Ethylbenzene:
Species  :  Rat  
Application Route  :  Inhalation (vapour)  
Exposure time  :  104 weeks  
Result  :  positive  
Remarks  :  The mechanism or mode of action may not be relevant in humans.

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  
Species  :  Rat, male and female
### Deltamethrin (with Xylene) Formulation

**Version:** 2.3  
**Revision Date:** 24.03.2020  
**SDS Number:** 2972625-00006  
**Date of last issue:** 13.09.2019  
**Date of first issue:** 02.07.2018

<table>
<thead>
<tr>
<th>Application Route</th>
<th>Oral (feed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time</td>
<td>2 Years</td>
</tr>
<tr>
<td>Result</td>
<td>Negative</td>
</tr>
</tbody>
</table>

**Species:** Dog, male and female

<table>
<thead>
<tr>
<th>Application Route</th>
<th>Oral (feed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time</td>
<td>2 Years</td>
</tr>
<tr>
<td>NOAEL</td>
<td>1 mg/kg body weight</td>
</tr>
<tr>
<td>Result</td>
<td>Negative</td>
</tr>
</tbody>
</table>

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

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

**Solvent naphtha (petroleum), light aromatic:**

<table>
<thead>
<tr>
<th>Species</th>
<th>Mouse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Route</td>
<td>Skin contact</td>
</tr>
<tr>
<td>Exposure time</td>
<td>2 Years</td>
</tr>
<tr>
<td>Result</td>
<td>Positive</td>
</tr>
</tbody>
</table>

**Carcinogenicity - Assessment:** Sufficient evidence of carcinogenicity in animal experiments

**Methanol:**

<table>
<thead>
<tr>
<th>Species</th>
<th>Mouse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Route</td>
<td>Inhalation (vapour)</td>
</tr>
<tr>
<td>Exposure time</td>
<td>18 Months</td>
</tr>
<tr>
<td>Result</td>
<td>Negative</td>
</tr>
</tbody>
</table>

**Reproductive toxicity**

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

**Components:**

**Ethylbenzene:**

- **Effects on fertility:** Test Type: Two-generation reproduction toxicity study  
  Species: Rat  
  Application Route: Inhalation (vapour)  
  Method: OECD Test Guideline 416  
  Result: Negative

- **Effects on foetal development:** Test Type: Embryo-foetal development  
  Species: Rat  
  Application Route: Inhalation  
  Method: OECD Test Guideline 414  
  Result: Negative

**Xylene:**

- **Effects on fertility:** Test Type: One-generation reproduction toxicity study  
  Species: Rat
**Deltamethrin (with Xylene) Formulation**

**Application Route:** inhalation (vapour)
**Result:** negative

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

**Deltamethrin (ISO):**
**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
- **Remarks:** Significant toxicity observed in testing

- **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

**Developmental Toxicity**
- **NOAEL:** 10 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:**
## Deltamethrin (with Xylene) Formulation

<table>
<thead>
<tr>
<th>Component</th>
<th>Type</th>
<th>Species</th>
<th>Route</th>
<th>Result</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effects on fertility</strong></td>
<td>Test Type: Two-generation reproduction toxicity study</td>
<td>Rat</td>
<td>Ingestion</td>
<td>negative</td>
<td>The effects were seen only at maternally toxic doses.</td>
</tr>
<tr>
<td><strong>Effects on foetal development</strong></td>
<td>Test Type: Embryo-foetal development</td>
<td>Rat</td>
<td>Ingestion</td>
<td>negative</td>
<td></td>
</tr>
<tr>
<td><strong>Solvent naphtha (petroleum), light aromatic:</strong></td>
<td>Test Type: Reproduction/Developmental toxicity screening test</td>
<td>Rat</td>
<td>Inhalation (vapour)</td>
<td>negative</td>
<td></td>
</tr>
<tr>
<td><strong>Effects on fertility</strong></td>
<td>Test Type: Embryo-foetal development</td>
<td>Rat</td>
<td>Inhalation (vapour)</td>
<td>negative</td>
<td></td>
</tr>
<tr>
<td><strong>Methanol:</strong></td>
<td>Test Type: Fertility/early embryonic development</td>
<td>Mouse</td>
<td>Ingestion</td>
<td>negative</td>
<td></td>
</tr>
<tr>
<td><strong>STOT - single exposure</strong></td>
<td>May cause respiratory irritation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Components:

**Xylene:**
- Assessment: May cause respiratory irritation.

**Deltamethrin (ISO):**
- Assessment: May cause respiratory irritation.

**Solvent naphtha (petroleum), light aromatic:**
- Assessment: May cause drowsiness or dizziness.
Methanol:
Target Organs : Eye, Central nervous system
Assessment : Causes damage to organs.

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

Components:

Ethylbenzene:
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.

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.

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:

Ethylbenzene:
Species : Rat
LOAEL : 0.868 mg/l
Application Route : inhalation (vapour)
Exposure time : 13 Weeks

Species : Rat
NOAEL : 75 mg/kg
LOAEL : 250 mg/kg
Application Route : Ingestion
Method : OECD Test Guideline 408
### Xylene:

<table>
<thead>
<tr>
<th>Species</th>
<th>Rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOAEL</td>
<td>&gt; 0.2 - 1 mg/l</td>
</tr>
<tr>
<td>Application Route</td>
<td>Inhalation (vapour)</td>
</tr>
<tr>
<td>Exposure time</td>
<td>13 Weeks</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

### Deltamethrin (ISO):

<table>
<thead>
<tr>
<th>Species</th>
<th>Rat, male and female</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>1 mg/kg</td>
</tr>
<tr>
<td>LOAEL</td>
<td>2.5 mg/kg</td>
</tr>
<tr>
<td>Application Route</td>
<td>Oral</td>
</tr>
<tr>
<td>Exposure time</td>
<td>13 Weeks</td>
</tr>
<tr>
<td>Target Organs</td>
<td>Nervous system</td>
</tr>
<tr>
<td>Symptoms</td>
<td>Hyperexcitability</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Species</th>
<th>Rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOAEL</td>
<td>3 mg/m3</td>
</tr>
<tr>
<td>Application Route</td>
<td>Inhalation (dust/mist/fume)</td>
</tr>
<tr>
<td>Test atmosphere</td>
<td>Dust/mist</td>
</tr>
<tr>
<td>Exposure time</td>
<td>2 wk / 5 d/wk / 6 h/d</td>
</tr>
<tr>
<td>Symptoms</td>
<td>Local irritation, respiratory tract irritation</td>
</tr>
</tbody>
</table>

### Deltamethrin (with Xylene) Formulation:

<table>
<thead>
<tr>
<th>Species</th>
<th>Dog</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>0.1 mg/kg</td>
</tr>
<tr>
<td>LOAEL</td>
<td>1 mg/kg</td>
</tr>
<tr>
<td>Application Route</td>
<td>Oral</td>
</tr>
<tr>
<td>Exposure time</td>
<td>13 Weeks</td>
</tr>
<tr>
<td>Target Organs</td>
<td>Nervous system</td>
</tr>
<tr>
<td>Symptoms</td>
<td>Dilatation of the pupil, Vomiting, Tremors, Diarrhoea, Salivation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Species</th>
<th>Rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>14 mg/kg</td>
</tr>
<tr>
<td>LOAEL</td>
<td>54 mg/kg</td>
</tr>
<tr>
<td>Application Route</td>
<td>Oral</td>
</tr>
<tr>
<td>Exposure time</td>
<td>91 d</td>
</tr>
<tr>
<td>Target Organs</td>
<td>Nervous system</td>
</tr>
<tr>
<td>Symptoms</td>
<td>Immune system effects</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Species</th>
<th>Mouse</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOAEL</td>
<td>6 mg/kg</td>
</tr>
<tr>
<td>Application Route</td>
<td>Oral</td>
</tr>
<tr>
<td>Exposure time</td>
<td>12 Weeks</td>
</tr>
<tr>
<td>Target Organs</td>
<td>Immune system</td>
</tr>
<tr>
<td>Symptoms</td>
<td>Immune system effects</td>
</tr>
</tbody>
</table>
2,6-Di-tert-butyl-p-cresol:
Species : Rat
NOAEL : 25 mg/kg
Application Route : Ingestion
Exposure time : 22 Months

Solvent naphtha (petroleum), light aromatic:
Species : Rat
LOAEL : 500 mg/kg
Application Route : Ingestion
Exposure time : 28 Days

Methanol:
Species : Rat
NOAEL : 1,06 mg/l
Application Route : inhalation (vapour)
Exposure time : 90 Days

Aspiration toxicity
May be fatal if swallowed and enters airways.

Components:

Ethylbenzene:
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.

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.

Solvent naphtha (petroleum), light aromatic:
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.

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:**

**Ethylbenzene:**
- Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): 4,2 mg/l
  Exposure time: 96 h
  Method: OECD Test Guideline 203
- Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 1,8 - 2,4 mg/l
  Exposure time: 48 h
- Toxicity to algae/aquatic plants: EC50 (Pseudokirchneriella subcapitata (green algae)): 3,6 mg/l
  Exposure time: 96 h
  NOEC (Pseudokirchneriella subcapitata (green algae)): 3,4 mg/l
  Exposure time: 96 h
- Toxicity to microorganisms: EC50 (Nitrosomonas sp.): 96 mg/l
  Exposure time: 24 h
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOEC: 0,96 mg/l
  Exposure time: 7 d
  Species: Ceriodaphnia dubia (water flea)

**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: EL10: > 1 - 10 mg/l
aquatic invertebrates (Chronic toxicity)  
Species: Daphnia magna (Water flea)  
Method: OECD Test Guideline 211  
Remarks: Based on data from similar materials

4-Nonylphenol, branched, ethoxylated:  
Toxicity to fish  
: LC50 : 44 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates  
: EC50 : 68 mg/l  
Exposure time: 48 h

Deltamethrin (ISO):  
Toxicity to fish  
: LC50 (Cyprinodon variegatus (sheepshead minnow)): 0,00048 mg/l  
Exposure time: 96 h  
LC50 (Oncorhynchus mykiss (rainbow trout)): 0,00039 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates  
: EC50 (Mysis baia (oossum shrimp)): 0,0037 µg/l  
Exposure time: 48 h  
EC50 (Daphnia magna (Water flea)): 0,0035 mg/l  
Exposure time: 48 h  
LC50 (Gammarus fasciatus (freshwater shrimp)): 0,0003 µg/l  
Exposure time: 96 h

Toxicity to algae/aquatic plants  
: EC50 (Pseudokirchneriella subcapitata (green algae)): > 9,1 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: No toxicity at the limit of solubility

M-Factor (Acute aquatic toxicity)  
: 1.000.000

Toxicity to fish (Chronic toxicity)  
: NOEC: 0,000022 mg/l  
Exposure time: 36 d  
Species: Pimephales promelas (fathead minnow)  
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
## Deltamethrin (with Xylene) 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>2.3</td>
<td>24.03.2020</td>
<td>2972625-00006</td>
<td>13.09.2019</td>
<td>02.07.2018</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Toxicity to fish</strong></td>
<td>LC50 (Danio rerio (zebra fish)): &gt; 0,57 mg/l Exposure time: 96 h Method: Directive 67/548/EEC, Annex V, C.1.</td>
</tr>
<tr>
<td><strong>Toxicity to daphnia and other aquatic invertebrates</strong></td>
<td>EC50 (Daphnia magna (Water flea)): 0,48 mg/l Exposure time: 48 h Method: OECD Test Guideline 202</td>
</tr>
<tr>
<td><strong>Toxicity to algae/aquatic plants</strong></td>
<td>ErC50 (Pseudokirchneriella subcapitata (green algae)): &gt; 0,24 mg/l Exposure time: 72 h Method: OECD Test Guideline 202 NOEC (Pseudokirchneriella subcapitata (green algae)): 0,24 mg/l Exposure time: 72 h Method: OECD Test Guideline 202</td>
</tr>
</tbody>
</table>

**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

### Solvent naphtha (petroleum), light aromatic:

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Toxicity to fish</strong></td>
<td>LC50 (Pimephales promelas (fathead minnow)): 8,2 mg/l Exposure time: 96 h Test substance: Water Accommodated Fraction</td>
</tr>
<tr>
<td><strong>Toxicity to daphnia and other aquatic invertebrates</strong></td>
<td>EL50 (Daphnia magna (Water flea)): 4,5 mg/l Exposure time: 48 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 202</td>
</tr>
<tr>
<td><strong>Toxicity to algae/aquatic plants</strong></td>
<td>EL50 (Pseudokirchneriella subcapitata (microalgae)): 3,1 mg/l Exposure time: 96 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 201 NOELR (Pseudokirchneriella subcapitata (microalgae)): 0,5</td>
</tr>
</tbody>
</table>
**SAFETY DATA SHEET**

according to Regulation (EC) No. 1907/2006

---

**Deltamethrin (with Xylene) 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>2.3</td>
<td>24.03.2020</td>
<td>2972625-00006</td>
<td>13.09.2019</td>
<td>02.07.2018</td>
</tr>
</tbody>
</table>

mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201

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

<table>
<thead>
<tr>
<th>Test substance</th>
<th>NOELR</th>
<th>Exposure time</th>
<th>Species</th>
<th>Test substance</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Accommodated Fraction</td>
<td>2,6 mg/l</td>
<td>21 d</td>
<td>Daphnia magna (Water flea)</td>
<td>Water Accommodated Fraction</td>
<td>OECD Test Guideline 211</td>
</tr>
</tbody>
</table>

**Methanol:**

Toxicity to fish:

<table>
<thead>
<tr>
<th>Test substance</th>
<th>LC50</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Lepomis macrochirus (Bluegill sunfish))</td>
<td>15.400 mg/l</td>
<td>96 h</td>
</tr>
</tbody>
</table>

Toxicity to daphnia and other aquatic invertebrates:

<table>
<thead>
<tr>
<th>Test substance</th>
<th>EC50</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Daphnia magna (Water flea))</td>
<td>&gt; 10.000 mg/l</td>
<td>48 h</td>
</tr>
</tbody>
</table>

Toxicity to algae/aquatic plants:

<table>
<thead>
<tr>
<th>Test substance</th>
<th>EC50</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Pseudokirchneriella subcapitata (green algae))</td>
<td>22.000 mg/l</td>
<td>96 h</td>
</tr>
</tbody>
</table>

Method: OECD Test Guideline 201

Toxicity to microorganisms:

<table>
<thead>
<tr>
<th>Test substance</th>
<th>IC50</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 1.000 mg/l</td>
<td>3 h</td>
<td></td>
</tr>
</tbody>
</table>

Toxicity to fish (Chronic toxicity):

<table>
<thead>
<tr>
<th>Test substance</th>
<th>NOEC</th>
<th>Exposure time</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 15.800 mg/l</td>
<td>200 h</td>
<td>Oryzias latipes (Orange-red killifish)</td>
<td></td>
</tr>
</tbody>
</table>

12.2 Persistence and degradability

**Components:**

**Ethylbenzene:**

Biodegradability: Result: Readily biodegradable. Biodegradation: 70 - 80 %. Exposure time: 28 d

**Xylene:**

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

**4-Nonylphenol, branched, ethoxylated:**

Biodegradability: Result: Not readily biodegradable.

**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

Solvent naphtha (petroleum), light aromatic:
Biodegradability : Result: Inherently biodegradable.
 Biodegradation: 94 %
 Exposure time: 25 d

Methanol:
Biodegradability : Result: Readily biodegradable.
 Biodegradation: 95 %
 Exposure time: 20 d

12.3 Bioaccumulative potential

Components:

Ethylbenzene:
Partition coefficient: n-octanol/water : log Pow: 3,6

Xylene:
Partition coefficient: n-octanol/water : log Pow: 3,16
 Remarks: Calculation

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:
Bioaccumulation : Species: Cyprinus carpio (Carp)
 Bioconcentration factor (BCF): 330 - 1.800
 Partition coefficient: n-octanol/water : log Pow: 5,1

Methanol:
Bioaccumulation : Species: Leuciscus idus (Golden orfe)
 Bioconcentration factor (BCF): < 10
 Partition coefficient: n-octanol/water : log Pow: -0,77
Deltamethrin (with Xylene) Formulation

12.4 Mobility in soil

**Components:**

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

12.5 Results of PBT and vPvB assessment

Not relevant

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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

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

SECTION 14: Transport information

14.1 UN number

<table>
<thead>
<tr>
<th>ADN</th>
<th>ADR</th>
<th>RID</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
</table>

14.2 UN proper shipping name

<table>
<thead>
<tr>
<th>ADN</th>
<th>ADR</th>
<th>RID</th>
<th>IMDG</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLAMMABLE LIQUID, TOXIC, N.O.S. (Ethylbenzene, Xylene)</td>
<td>FLAMMABLE LIQUID, TOXIC, N.O.S. (Ethylbenzene, Xylene)</td>
<td>FLAMMABLE LIQUID, TOXIC, N.O.S. (Ethylbenzene, Xylene)</td>
<td>FLAMMABLE LIQUID, TOXIC, N.O.S. (Ethylbenzene, Xylene, Deltamethrin (ISO))</td>
</tr>
</tbody>
</table>
Deltamethrin (with Xylene) Formulation

IATA : Flammable liquid, toxic, n.o.s. (Ethylbenzene, 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 : FT1
Hazard Identification Number : 36
Labels : 3 (6.1)

ADR
Packing group : III
Classification Code : FT1
Hazard Identification Number : 36
Labels : 3 (6.1)
Tunnel restriction code : (D/E)

RID
Packing group : III
Classification Code : FT1
Hazard Identification Number : 36
Labels : 3 (6.1)

IMDG
Packing group : III
Labels : 3 (6.1)
EmS Code : F-E, S-D

IATA (Cargo)
Packing instruction (cargo aircraft) : 366
Packing instruction (LQ) : Y343
Packing group : III
Labels : Flammable Liquids, Toxic

IATA (Passenger)
Packing instruction (passenger aircraft) : 355
Packing instruction (LQ) : Y343
Packing group : III
Labels : Flammable Liquids, Toxic

14.5 Environmental hazards

ADN
Environmentally hazardous : yes
ADR
Deltamethrin (with Xylene) Formulation

Environmentally hazardous : yes
RID
Environmentally hazardous : yes
IMDG
Marine pollutant : yes

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

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
Remarks : Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Conditions of restriction for the following entries should be considered:
- Number on list 3
- 4-Nonylphenol, branched, ethoxylated (Number on list 46b, 46a)
- Solvent naphtha (petroleum), light aromatic (Number on list 29, 28)

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59) : 4-Nonylphenol, branched, ethoxylated

REACH - List of substances subject to authorisation (Annex XIV) : 4-Nonylphenol, branched, 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 : Not applicable


<table>
<thead>
<tr>
<th>E1</th>
<th>ENVIRONMENTAL HAZARDS</th>
<th>Quantity 1</th>
<th>100 t</th>
<th>Quantity 2</th>
<th>200 t</th>
</tr>
</thead>
<tbody>
<tr>
<td>P5c</td>
<td>FLAMMABLE LIQUIDS</td>
<td>5.000 t</td>
<td>50.000 t</td>
<td></td>
<td></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
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.
- H226: Flammable liquid and vapour.
- H301: Toxic if swallowed.
- H304: May be fatal if swallowed and enters airways.
- H311: Toxic in contact with skin.
- H312: Harmful in contact with skin.
- H315: Causes skin irritation.
- H317: May cause an allergic skin reaction.
- H319: Causes serious eye irritation.
- H331: Toxic if inhaled.
- H332: Harmful if inhaled.
- H335: May cause respiratory irritation.
- H336: May cause drowsiness or dizziness.
- H340: May cause genetic defects.
- H350: May cause cancer.
- H361fd: Suspected of damaging fertility. Suspected of damaging the unborn child.
- H370: Causes damage to organs.
- H372: Causes damage to organs through prolonged or repeated exposure if swallowed.
- H372: Causes damage to organs through prolonged or repeated exposure if inhaled.
- 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
## Deltamethrin (with Xylene) 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>2.3</td>
<td>24.03.2020</td>
<td>2972625-00006</td>
<td>13.09.2019</td>
<td>02.07.2018</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TWA : Limit Value - eight hours</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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; AICS - Australian Inventory of Chemical Substances; 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; ICSO - 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

**Further information**

Sources of key data used to : Internal technical data, data from raw material SDSs, OECD
Deltamethrin (with Xylene) Formulation

Classification of the mixture:

- Flam. Liq. 3: H226 (Calculation method)
- Acute Tox. 4: H302 (Calculation method)
- Acute Tox. 4: H332 (Calculation method)
- Skin Irrit. 2: H315 (Calculation method)
- Eye Irrit. 2: H319 (Calculation method)
- Skin Sens. 1: H317 (Calculation method)
- Muta. 1B: H340 (Calculation method)
- Carc. 1B: H350 (Calculation method)
- Repr. 2: H361fd (Calculation method)
- STOT SE 3: H335 (Calculation method)
- STOT RE 2: H373 (Calculation method)
- Asp. Tox. 1: H304 (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.