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)
Acute toxicity, Category 4 : H302: Harmful if swallowed.
Acute toxicity, Category 4 : H332: Harmful if inhaled.
Skin irritation, Category 2 : H315: Causes skin irritation.
Eye irritation, Category 2 : H319: Causes serious eye irritation.
Skin sensitisation, Category 1 : H317: May cause an allergic skin reaction.
Germ cell mutagenicity, Category 1B : H340: May cause genetic defects.
Carcinogenicity, Category 1B : H350: May cause cancer.
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.
Deltamethrin (with Xylene) Formulation

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

- Hazard pictograms:
  - Flammable liquid
  - Skin irritation
  - Inhalation hazard
  - Aquatic toxicity

- Signal word: Danger

- Hazard statements:
  - H226 Flammable liquid and vapour.
  - H302 + H332 Harmful if swallowed or if 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

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Concentration (% w/w)</th>
<th>Classification</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>&gt;= 30 - &lt; 50</td>
<td>Flam. Liq.2; H225 Acute Tox.4; H332 STOT RE2; H373 Asp. Tox.1; H304 Aquatic Chronic3; H412</td>
</tr>
<tr>
<td>Xylene</td>
<td>1330-20-7</td>
<td>215-535-7</td>
<td>601-022-00-9</td>
<td>&gt;= 30 - &lt; 50</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>
</tr>
<tr>
<td>4-Nonylphenol, branched, ethoxylated</td>
<td>127087-87-0</td>
<td></td>
<td></td>
<td></td>
<td>Aquatic Chronic3; H412</td>
</tr>
<tr>
<td>Deltamethrin (ISO)</td>
<td>52918-63-5</td>
<td>258-256-6</td>
<td>607-319-00-X</td>
<td>&gt;= 3 - &lt; 10</td>
<td>Acute Tox.3; H301 Acute Tox.3; H331 Eye Irrit.2; H319 Skin Sens.1A; H317 Repr.2; H361f STOT SE3; H335 STOT RE1; H372 STOT RE1; H372 Aquatic Acute1; H400 Aquatic Chronic1; H410</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>&gt;= 2.5 - &lt; 10</td>
<td>Aquatic Acute1; H400 Aquatic Chronic1; H410</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. 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.

For explanation of abbreviations see section 16.
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>
Further information: The EU has set an indicative limit value for this substance, Substances considered to be carcinogenic, Chemicals that can be absorbed through the skin.

<table>
<thead>
<tr>
<th>Substance</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>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</td>
</tr>
</tbody>
</table>

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:
## 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>Ethylbenzene</td>
<td>Fresh water</td>
<td>0.1 mg/l</td>
</tr>
<tr>
<td></td>
<td>Freshwater - intermittent</td>
<td>0.1 mg/l</td>
</tr>
</tbody>
</table>
### Marine water
- 0.01 mg/l

### Sewage treatment plant
- 9.6 mg/l

### Fresh water sediment
- 13.7 mg/kg dry weight (d.w.)

### Marine sediment
- 1.37 mg/kg dry weight (d.w.)

### Soil
- 2.68 mg/kg dry weight (d.w.)

### Oral (Secondary Poisoning)
- 20 mg/kg food

### Xylene

<table>
<thead>
<tr>
<th>Fresh water</th>
<th>0.327 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intermittent use/release</td>
<td>0.327 mg/l</td>
</tr>
<tr>
<td>Marine water</td>
<td>0.327 mg/l</td>
</tr>
<tr>
<td>Sewage treatment plant</td>
<td>6.58 mg/l</td>
</tr>
<tr>
<td>Fresh water sediment</td>
<td>12.46 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td>Marine sediment</td>
<td>12.46 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td>Soil</td>
<td>2.31 mg/kg dry weight (d.w.)</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Fresh water</th>
<th>0.199 µg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intermittent use/release</td>
<td>0.02 µg/l</td>
</tr>
<tr>
<td>Marine water</td>
<td>0.02 µg/l</td>
</tr>
<tr>
<td>Sewage treatment plant</td>
<td>0.17 mg/l</td>
</tr>
<tr>
<td>Fresh water sediment</td>
<td>0.0996 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td>Marine sediment</td>
<td>0.00996 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td>Soil</td>
<td>0.04769 mg/kg dry weight (d.w.)</td>
</tr>
</tbody>
</table>

### Oral (Secondary Poisoning)
- 8.33 mg/kg food

### Methanol

<table>
<thead>
<tr>
<th>Fresh water</th>
<th>20.8 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marine water</td>
<td>2.08 mg/l</td>
</tr>
<tr>
<td>Intermittent use/release</td>
<td>1540 mg/l</td>
</tr>
<tr>
<td>Sewage treatment plant</td>
<td>100 mg/l</td>
</tr>
<tr>
<td>Fresh water sediment</td>
<td>77 mg/kg</td>
</tr>
<tr>
<td>Marine sediment</td>
<td>7.7 mg/kg</td>
</tr>
<tr>
<td>Soil</td>
<td>100 mg/kg</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

- **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.
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
Relative density: No data available
Deltamethrin (with Xylene) Formulation

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

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: Inhalation
### Exposure

- **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:**

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

**Deltamethrin (ISO):**

- **Acute oral toxicity**
  - LD50 (Rat): 66.7 mg/kg
**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>
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<tr>
<td>2.2</td>
<td>09/13/2019</td>
<td>2972625-00005</td>
<td>24.04.2019</td>
<td>02.07.2018</td>
</tr>
</tbody>
</table>

**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**
- **Acute toxicity estimate (Humans): 300 mg/kg**
  - **Method: Expert judgement**
Deltamethrin (with Xylene) Formulation

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: Rabbit
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

**Methanol:**
Test Type: Maximisation Test
Exposure routes: Skin contact
Species: Guinea pig
Germ cell mutagenicity
May cause genetic defects.

Components:

**Ethylbenzene:**

<table>
<thead>
<tr>
<th>Genotoxicity in vitro</th>
<th>Test Type: Bacterial reverse mutation assay (AMES)</th>
<th>Result: negative</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Test Type: In vitro mammalian cell gene mutation test</td>
<td>Method: OECD Test Guideline 476</td>
</tr>
<tr>
<td></td>
<td>Test Type: Chromosome aberration test in vitro</td>
<td>Result: negative</td>
</tr>
</tbody>
</table>

| Genotoxicity in vivo | Test Type: Unscheduled DNA synthesis (UDS) test with mammalian liver cells in vivo | Method: OECD Test Guideline 486 | Result: negative |

**Xylene:**

<table>
<thead>
<tr>
<th>Genotoxicity in vitro</th>
<th>Test Type: Bacterial reverse mutation assay (AMES)</th>
<th>Result: negative</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Test Type: Chromosome aberration test in vitro</td>
<td>Result: negative</td>
</tr>
<tr>
<td></td>
<td>Test Type: In vitro mammalian cell gene mutation test</td>
<td>Result: negative</td>
</tr>
<tr>
<td></td>
<td>Test Type: In vitro sister chromatid exchange assay in mammalian cells</td>
<td>Result: negative</td>
</tr>
</tbody>
</table>

| Genotoxicity in vivo | Test Type: Rodent dominant lethal test (germ cell) (in vivo) | Method: OECD Test Guideline | Result: negative |

**Deltamethrin (ISO):**

<table>
<thead>
<tr>
<th>Genotoxicity in vitro</th>
<th>Test Type: Bacterial reverse mutation assay (AMES)</th>
<th>Result: negative</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Test Type: DNA Repair</td>
<td>Method: Escherichia coli</td>
</tr>
</tbody>
</table>
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 spermatogonia  
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
Application Route : oral (feed)
Exposure time : 2 Years
Result : negative
Deltamethrin (with Xylene) Formulation

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

Solvent naphtha (petroleum), light aromatic:
Species: Mouse
Application Route: Skin contact
Exposure time: 2 Years
Result: positive

Carcinogenicity - Assessment: Sufficient evidence of carcinogenicity in animal experiments

Methanol:
Species: Mouse
Application Route: inhalation (vapour)
Exposure time: 18 Months
Result: negative

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
Application Route: inhalation (vapour)
Result: negative

Effects on foetal development: Test Type: Embryo-foetal development
Deltamethrin (with Xylene) Formulation

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

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
## Deltamethrin (with Xylene) Formulation

<table>
<thead>
<tr>
<th>Version</th>
<th>2.2</th>
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<tbody>
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<td>Revision Date:</td>
<td>09/13/2019</td>
</tr>
<tr>
<td>SDS Number:</td>
<td>2972625-00005</td>
</tr>
<tr>
<td>Date of last issue:</td>
<td>24.04.2019</td>
</tr>
<tr>
<td>Date of first issue:</td>
<td>02.07.2018</td>
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</table>

### Effects on foetal development

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

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

**Effects on fertility**  
**Test Type:** Reproduction/Developmental toxicity screening test  
**Species:** Rat  
**Application Route:** inhalation (vapour)  
**Result:** negative

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

### Methanol:

**Effects on fertility**  
**Test Type:** Fertility/early embryonic development  
**Species:** Mouse  
**Application Route:** Ingestion  
**Result:** negative

**Effects on foetal development**  
**Test Type:** Embryo-foetal development  
**Species:** Mouse  
**Application Route:** Ingestion  
**Result:** positive  
**Remarks:** The effects were seen only at maternally toxic doses.

### STOT - single exposure

May cause respiratory irritation.

### 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:
Species: Rat
LOAEL: > 0.2 - 1 mg/l
Deltamethrin (with Xylene) Formulation

<table>
<thead>
<tr>
<th>Application Route</th>
<th>Inhalation (vapour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time</td>
<td>13 Weeks</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
<tr>
<td>Species</td>
<td>Rat</td>
</tr>
<tr>
<td>LOAEL</td>
<td>150 mg/kg</td>
</tr>
<tr>
<td>Application Route</td>
<td>Ingestion</td>
</tr>
<tr>
<td>Exposure time</td>
<td>90 Days</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>

<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>
</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:**

<table>
<thead>
<tr>
<th>Species</th>
<th>Rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>25 mg/kg</td>
</tr>
<tr>
<td>Application Route</td>
<td>Ingestion</td>
</tr>
<tr>
<td>Exposure time</td>
<td>22 Months</td>
</tr>
</tbody>
</table>
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

Deltamethrin (with Xylene) Formulation

<table>
<thead>
<tr>
<th>Substance</th>
<th>LC50 (Onchorhynchus mykiss (rainbow trout))</th>
<th>Exposure time</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylene</td>
<td>4,2 mg/l</td>
<td>96 h</td>
<td>OECD Test Guideline 203</td>
</tr>
</tbody>
</table>

Toxicity to daphnia and other aquatic invertebrates

<table>
<thead>
<tr>
<th>Substance</th>
<th>EC50 (Daphnia magna (Water flea))</th>
<th>Exposure time</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylene</td>
<td>1,8 - 2,4 mg/l</td>
<td>48 h</td>
<td>OECD Test Guideline 202</td>
</tr>
</tbody>
</table>

Toxicity to algae/aquatic plants

<table>
<thead>
<tr>
<th>Substance</th>
<th>EC50 (Pseudokirchneriella subcapitata (green algae))</th>
<th>Exposure time</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylene</td>
<td>3,6 mg/l</td>
<td>96 h</td>
<td>OECD Test Guideline 203</td>
</tr>
</tbody>
</table>

NOEC (Pseudokirchneriella subcapitata (green algae)):

<table>
<thead>
<tr>
<th>Substance</th>
<th>NOEC (Pseudokirchneriella subcapitata (green algae))</th>
<th>Exposure time</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylene</td>
<td>3,4 mg/l</td>
<td>96 h</td>
<td>OECD Test Guideline 203</td>
</tr>
</tbody>
</table>

Toxicity to microorganisms

<table>
<thead>
<tr>
<th>Substance</th>
<th>EC50 (Nitrosomonas sp.)</th>
<th>Exposure time</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylene</td>
<td>96 mg/l</td>
<td>24 h</td>
<td>OECD Test Guideline 202</td>
</tr>
</tbody>
</table>

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

<table>
<thead>
<tr>
<th>Substance</th>
<th>NOEC: 0,96 mg/l</th>
<th>Exposure time</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylene</td>
<td></td>
<td>7 d</td>
<td>OECD Test Guideline 202</td>
</tr>
</tbody>
</table>

Species: Ceriodaphnia dubia (water flea)

Xylene:

Toxicity to fish

<table>
<thead>
<tr>
<th>Substance</th>
<th>LC50 (Onchorhynchus mykiss (rainbow trout))</th>
<th>Exposure time</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylene</td>
<td>13,5 mg/l</td>
<td>96 h</td>
<td>OECD Test Guideline 203</td>
</tr>
</tbody>
</table>

Toxicity to daphnia and other aquatic invertebrates

<table>
<thead>
<tr>
<th>Substance</th>
<th>EC50 (Daphnia magna (Water flea))</th>
<th>Exposure time</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylene</td>
<td>&gt; 1 - 10 mg/l</td>
<td>24 h</td>
<td>OECD Test Guideline 202</td>
</tr>
</tbody>
</table>

Species: Daphnia magna (Water flea)

Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants

<table>
<thead>
<tr>
<th>Substance</th>
<th>EC50 (Skeletonema costatum (marine diatom))</th>
<th>Exposure time</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylene</td>
<td>10 mg/l</td>
<td>72 h</td>
<td>OECD Test Guideline 209</td>
</tr>
</tbody>
</table>

Toxicity to microorganisms

<table>
<thead>
<tr>
<th>Substance</th>
<th>NOEC: &gt; 100 mg/l</th>
<th>Exposure time</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylene</td>
<td></td>
<td>3 h</td>
<td>OECD Test Guideline 209</td>
</tr>
</tbody>
</table>

Remarks: Based on data from similar materials

Toxicity to fish (Chronic toxicity)

<table>
<thead>
<tr>
<th>Substance</th>
<th>NOEC: &gt; 0,1 - &lt; 1 mg/l</th>
<th>Exposure time</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylene</td>
<td></td>
<td>35 d</td>
<td>OECD Test Guideline 210</td>
</tr>
</tbody>
</table>

Species: Danio rerio (zebra fish)

Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

<table>
<thead>
<tr>
<th>Substance</th>
<th>EL10: &gt; 1 - 10 mg/l</th>
<th>Exposure time</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylene</td>
<td></td>
<td>21 d</td>
<td>OECD Test Guideline 211</td>
</tr>
</tbody>
</table>

Species: Daphnia magna (Water flea)

Remarks: Based on data from similar materials

4-Nonylphenol, branched, ethoxylated:

Toxicity to fish

<table>
<thead>
<tr>
<th>Substance</th>
<th>LC50: 44 mg/l</th>
</tr>
</thead>
</table>
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 (Mysidopsis bahia (opossum 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

**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
# Deltamethrin (with Xylene) Formulation

<table>
<thead>
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<th>Version</th>
<th>Revision Date</th>
<th>SDS Number</th>
<th>Date of last issue</th>
<th>Date of first issue</th>
</tr>
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<tbody>
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<td>09/13/2019</td>
<td>2972625-00005</td>
<td>24.04.2019</td>
<td>02.07.2018</td>
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## 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

## Solvent naphtha (petroleum), light aromatic:

### Toxicity to fish
- **LC50** (Pimephales promelas (fathead minnow)): 8.2 mg/l  
  Exposure time: 96 h  
  Test substance: Water Accommodated Fraction

### Toxicity to daphnia and other aquatic invertebrates
- **EL50** (Daphnia magna (Water flea)): 4.5 mg/l  
  Exposure time: 48 h  
  Test substance: Water Accommodated Fraction  
  Method: OECD Test Guideline 202

### Toxicity to algae/aquatic plants
- **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 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)
- **NOELR**: 2.6 mg/l  
  Exposure time: 21 d  
  Species: Daphnia magna (Water flea)
Test substance: Water Accommodated Fraction  
Method: OECD Test Guideline 211

**Methanol:**

**Toxicity to fish**: LC50 (Lepomis macrochirus (Bluegill sunfish)): 15.400 mg/l  
Exposure time: 96 h

**Toxicity to daphnia and other aquatic invertebrates**: EC50 (Daphnia magna (Water flea)): > 10.000 mg/l  
Exposure time: 48 h

**Toxicity to algae/aquatic plants**: EC50 (Pseudokirchneriella subcapitata (green algae)): 22.000 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 201

**Toxicity to microorganisms**: IC50: > 1.000 mg/l  
Exposure time: 3 h

**Toxicity to fish (Chronic toxicity)**: NOEC: 15.800 mg/l  
Exposure time: 200 h  
Species: Oryzias latipes (Orange-red killifish)

---

### 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
Deltamethrin (with Xylene) Formulation

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

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
Deltamethrin (with Xylene) Formulation

12.6 Other adverse effects
No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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

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

SECTION 14: Transport information

14.1 UN number

ADN: UN 1992
ADR: UN 1992
RID: UN 1992
IMDG: UN 1992
IATA: UN 1992

14.2 UN proper shipping name

ADN: FLAMMABLE LIQUID, TOXIC, N.O.S. (Ethylbenzene, Xylene)
ADR: FLAMMABLE LIQUID, TOXIC, N.O.S. (Ethylbenzene, Xylene)
RID: FLAMMABLE LIQUID, TOXIC, N.O.S. (Ethylbenzene, Xylene)
IMDG: FLAMMABLE LIQUID, TOXIC, N.O.S. (Ethylbenzene, Xylene, Deltamethrin (ISO))
IATA: Flammable liquid, toxic, n.o.s. (Ethylbenzene, Xylene)

14.3 Transport hazard class(es)

ADN: 3
ADR: 3
RID: 3
IMDG: 3
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

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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
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.
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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 (EC) No 850/2004 on persistent organic pollutants : Not applicable
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

P5c FLAMMABLE LIQUIDS Quantity 1 Quantity 2
5.000 t 50.000 t

E1 ENVIRONMENTAL HAZARDS 100 t 200 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
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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.
H373 : Causes damage to organs through prolonged or repeated exposure if inhaled.
H374 : 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
Carc. : Carcinogenicity
Eye Irrit. : Eye irritation
Flam. Liq. : Flammable liquids
Muta. : Germ cell mutagenicity
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
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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; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; ILO - International Labour Organization; ISHL - Industrial Safety and Health Law (Japan); ISOC - 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 Road; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSD - 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

Classification of the mixture:
| Flam. Liq. 3 | H226 |
| Acute Tox. 4 | H302 |
| Acute Tox. 4 | H332 |

Classification procedure:
- Based on product data or assessment
- Calculation method
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<tr>
<th>Property</th>
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NO / EN