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)
Flammable liquids, Category 3
Acute toxicity, Category 4
Acute toxicity, Category 4
Skin irritation, Category 2
Eye irritation, Category 2
Skin sensitisation, Category 1
Germ cell mutagenicity, Category 1B
Carcinogenicity, Category 1B
Reproductive toxicity, Category 2
Specific target organ toxicity - single exposure, Category 3
Specific target organ toxicity - repeated exposure, Category 2
Aspiration hazard, Category 1
Short-term (acute) aquatic hazard, Category 1
Long-term (chronic) aquatic hazard, Category 1

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

**Labelling (REGULATION (EC) No 1272/2008)**

**Signal word:** Danger

**Hazard pictograms:**
- Flammable liquid and vapour
- Harmful if swallowed or 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
- Very toxic to aquatic life with long lasting effects

**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.
### 3.2 Mixtures

<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>100-41-4 202-849-4 601-023-00-4</td>
<td>Flam. Liq. 2; H225 Acute Tox. 4; H332 STOT RE 2; H373 Asp. Tox. 1; H304 Aquatic Chronic 3; H412</td>
<td>&gt;= 30 - &lt; 50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1330-20-7 215-535-7 601-022-00-9</td>
<td>Flam. Liq. 3; H226 Acute Tox. 4; H332 Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 STOT RE 2; H373 Asp. Tox. 1; H304 Aquatic Chronic 3; H412</td>
<td>&gt;= 30 - &lt; 50</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4-Nonylphenol, branched, ethoxylated 127087-87-0 | Aquatic Chronic 3; H412 | >= 10 - < 20 |

Deltamethrin (ISO) 52918-63-5 258-256-6 607-319-00-X | Acute Tox. 3; H301 Acute Tox. 3; H331 Skin Irrit. 2; H319 Eye Irrit. 2; H319 Skin Sens. 1A; H317 Repr. 2; H361fd STOT SE 3; H335 STOT RE 1; H372 STOT RE 1; H372 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 | >= 3 - < 10 |

| M-Factor (Acute aquatic toxicity): 1,000,000 | M-Factor (Chronic aquatic toxicity): 1,000,000 |

2,6-Di-tert-butyl-p-cresol 128-37-0 204-881-4 | Aquatic Acute 1; H400 Aquatic Chronic 1; H410 | >= 2.5 - < 10 |

M-Factor (Acute aquatic toxicity): 1
Deltamethrin (with Xylene) Formulation

SECTION 4: First aid measures

4.1 Description of first aid measures

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

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

If inhaled : If inhaled, remove to fresh air.
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.

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.
Deltamethrin (with Xylene) Formulation

Version 2.2  Revision Date: 09/13/2019  SDS Number: 2972630-00005  Date of last issue: 24.04.2019
Date of first issue: 02.07.2018

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 fire-fighting : 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.
Deltamethrin (with Xylene) Formulation

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>100 ppm 442 mg/m3</td>
<td>2000/39/EC</td>
</tr>
</tbody>
</table>
**Further information** Identifies the possibility of significant uptake through the skin, Indicative

<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>2,6-Di-tert-butyl-phenol</td>
<td>Workers</td>
<td>Inhalation</td>
<td>Acute local effects</td>
<td>293 mg/m3</td>
</tr>
<tr>
<td>Consumers</td>
<td>Inhalation</td>
<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>180 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Long-term systemic</td>
<td>15 mg/m3</td>
</tr>
</tbody>
</table>
### Deltamethrin (with Xylene) Formulation

<table>
<thead>
<tr>
<th>Substance</th>
<th>Route of Exposure</th>
<th>Effect Type</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Xylene</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>221 mg/m³</td>
</tr>
<tr>
<td>Consumers</td>
<td>Ingestion</td>
<td>Long-term systemic effects</td>
<td>1.6 mg/kg bw/day</td>
</tr>
<tr>
<td>Workers</td>
<td>Inhalation</td>
<td>Acute systemic effects</td>
<td>442 mg/m³</td>
</tr>
<tr>
<td><strong>Workers</strong></td>
<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>212 mg/kg bw/day</td>
</tr>
<tr>
<td>Consumers</td>
<td>Ingestion</td>
<td>Long-term systemic effects</td>
<td>65.3 mg/m³</td>
</tr>
<tr>
<td>Consumers</td>
<td>Inhalation</td>
<td>Acute systemic effects</td>
<td>260 mg/m³</td>
</tr>
<tr>
<td><strong>2,6-Di-tert-butyl-p-cresol</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>3.5 mg/m³</td>
</tr>
<tr>
<td>Consumers</td>
<td>Dermal</td>
<td>Long-term systemic effects</td>
<td>0.5 mg/kg bw/day</td>
</tr>
<tr>
<td>Consumers</td>
<td>Ingestion</td>
<td>Long-term systemic effects</td>
<td>0.86 mg/m³</td>
</tr>
<tr>
<td><strong>Methanol</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Workers</td>
<td>Inhalation</td>
<td>Acute systemic effects</td>
<td>260 mg/m³</td>
</tr>
<tr>
<td><strong>Workers</strong></td>
<td>Skin contact</td>
<td>Acute systemic effects</td>
<td>260 mg/m³</td>
</tr>
<tr>
<td>Consumers</td>
<td>Ingestion</td>
<td>Acute systemic effects</td>
<td>260 mg/m³</td>
</tr>
<tr>
<td>Consumers</td>
<td>Skin contact</td>
<td>Acute systemic effects</td>
<td>260 mg/m³</td>
</tr>
<tr>
<td>Consumers</td>
<td>Ingestion</td>
<td>Long-term systemic effects</td>
<td>50 mg/m³</td>
</tr>
<tr>
<td><strong>Consumers</strong></td>
<td>Skin contact</td>
<td>Acute systemic effects</td>
<td>50 mg/m³</td>
</tr>
<tr>
<td><strong>Workers</strong></td>
<td>Skin contact</td>
<td>Acute systemic effects</td>
<td>8 mg/kg bw/day</td>
</tr>
</tbody>
</table>
Deltamethrin (with Xylene) Formulation

<table>
<thead>
<tr>
<th>Consumers</th>
<th>Skin contact</th>
<th>Acute systemic effects</th>
<th>8 mg/kg bw/day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumers</td>
<td>Ingestion</td>
<td>Long-term systemic effects</td>
<td>8 mg/kg bw/day</td>
</tr>
<tr>
<td>Consumers</td>
<td>Ingestion</td>
<td>Acute systemic effects</td>
<td>8 mg/kg bw/day</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Substance name</th>
<th>Environmental Compartment</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>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>
<tr>
<td></td>
<td>Marine water</td>
<td>0.01 mg/l</td>
</tr>
<tr>
<td></td>
<td>Sewage treatment plant</td>
<td>9.6 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>13.7 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td>Marine sediment</td>
<td></td>
<td>1.37 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>2.68 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td></td>
<td>Oral (Secondary Poisoning)</td>
<td>20 mg/kg food</td>
</tr>
<tr>
<td>Xylene</td>
<td>Fresh water</td>
<td>0.327 mg/l</td>
</tr>
<tr>
<td></td>
<td>Intermittent use/release</td>
<td>0.327 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.327 mg/l</td>
</tr>
<tr>
<td></td>
<td>Sewage treatment plant</td>
<td>6.58 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>12.46 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td>Marine sediment</td>
<td></td>
<td>12.46 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>2.31 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td>2,6-Di-tert-butyl-p-cresol</td>
<td>Fresh water</td>
<td>0.199 µg/l</td>
</tr>
<tr>
<td></td>
<td>Intermittent use/release</td>
<td>0.02 µg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.02 µg/l</td>
</tr>
<tr>
<td></td>
<td>Sewage treatment plant</td>
<td>0.17 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>0.0996 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td>Marine sediment</td>
<td></td>
<td>0.00996 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>0.04769 mg/kg dry weight (d.w.)</td>
</tr>
<tr>
<td></td>
<td>Oral (Secondary Poisoning)</td>
<td>8.33 mg/kg food</td>
</tr>
<tr>
<td>Methanol</td>
<td>Fresh water</td>
<td>20.8 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>2.08 mg/l</td>
</tr>
<tr>
<td></td>
<td>Intermittent use/release</td>
<td>1540 mg/l</td>
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<tr>
<td></td>
<td>Sewage treatment plant</td>
<td>100 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>77 mg/kg</td>
</tr>
<tr>
<td>Marine sediment</td>
<td></td>
<td>7.7 mg/kg</td>
</tr>
<tr>
<td></td>
<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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>clear yellow</td>
</tr>
<tr>
<td>Odour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>38 °C</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
</tbody>
</table>
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
Density : No data available
Solubility(ies)
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
Deltamethrin (with Xylene) Formulation

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: LD50 (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
Deltamethrin (with Xylene) Formulation

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
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:

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

Deltamethrin (with Xylene) Formulation

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

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 (with Xylene) Formulation

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

2,6-Di-tert-butyl-p-cresol:
Test Type: Human repeat insult patch test (HRIPT)
Exposure routes: Skin contact
Species: Humans
# 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>
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<td>2.2</td>
<td>09/13/2019</td>
<td>2972630-00005</td>
<td>24.04.2019</td>
<td>02.07.2018</td>
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### Solvent naphtha (petroleum), light aromatic:

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Result</th>
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<tbody>
<tr>
<td>Buehler Test</td>
<td>negative</td>
</tr>
<tr>
<td>Skin contact</td>
<td></td>
</tr>
<tr>
<td>Guinea pig</td>
<td></td>
</tr>
</tbody>
</table>

### Methanol:

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximisation Test</td>
<td>negative</td>
</tr>
<tr>
<td>Skin contact</td>
<td></td>
</tr>
<tr>
<td>Guinea pig</td>
<td></td>
</tr>
</tbody>
</table>

### Germ cell mutagenicity

May cause genetic defects.

### Components:

#### Ethylbenzene:

Genotoxicity in vitro:
- Test Type: Bacterial reverse mutation assay (AMES)
  - Result: negative
- Test Type: In vitro mammalian cell gene mutation test
  - Method: OECD Test Guideline 476
  - Result: negative
- Test Type: Chromosome aberration test in vitro
  - 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

**Deltamethrin (ISO):**

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

Test Type: Bacterial reverse mutation assay (AMES)  
- **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

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:**

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

Deltamethrin (with Xylene) Formulation

Version: 2.2  Revision Date: 09/13/2019  SDS Number: 2972630-00005  Date of last issue: 24.04.2019  Date of first issue: 02.07.2018

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 (with Xylene) Formulation

### 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

- **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

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

### Methanol:

- **Species**: Mouse
- **Application Route**: Ingestion (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

Effects on fertility:
Species: Rat
Application Route: inhalation (vapour)
Result: negative

Effects on fertility:
Species: Rat
Application Route: inhalation (vapour)
Result: negative

Deltamethrin (ISO):
Effects on fertility:
Species: Rat
Application Route: Oral
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
Target Organs: Testes

Fertility:
Species: Rat, male
Application Route: Oral
Fertility: LOAEL: 1 mg/kg body weight
Symptoms: Effects on fertility

Effects on foetal 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)  
Developement Toxicity: NOAEL: 16 mg/kg body weight  
Symptoms: No effects on foetal development  

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

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

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

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

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.
Deltamethrin (with Xylene) Formulation

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

Species: Rat  
LOAEL: > 0.2 - 1 mg/l  
Application Route: Inhalation (vapour)  
Exposure time: 13 Weeks  
Remarks: Based on data from similar materials

**Xylene:**

Species: Rat  
NOAEL: 150 mg/kg  
Application Route: Ingestion  
Exposure time: 90 Days

**Deltamethrin (ISO):**

Species: Rat, male and female  
NOAEL: 1 mg/kg  
LOAEL: 2.5 mg/kg  
Application Route: Oral  
Exposure time: 13 Weeks  
Target Organs: Nervous system  
Symptoms: hyperexcitability

Species: Rat  
LOAEL: 3 mg/m³  
Application Route: Inhalation (dust/mist/fume)  
Test atmosphere: Dust/mist  
Exposure time: 2 wk / 5 d/wk / 6 h/d  
Symptoms: Local irritation, respiratory tract irritation

Species: Dog  
NOAEL: 0.1 mg/kg  
LOAEL: 1 mg/kg  
Application Route: Oral  
Exposure time: 13 Weeks  
Target Organs: Nervous system  
Symptoms: Dilatation of the pupil, Vomiting, Tremors, Diarrhoea, Salivation
Deltamethrin (with Xylene) Formulation

Species: Rat
NOAEL: 14 mg/kg
LOAEL: 54 mg/kg
Application Route: Oral
Exposure time: 91 d
Target Organs: Nervous system

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

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

Solvent naphtha (petroleum), light aromatic:
Species: Rat
NOAEL: 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 (Chronic toxicity): EL10: > 1 - 10 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211
Remarks: Based on data from similar materials

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 (Mysisopsis 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)

Exposure time:

Species: Daphnia magna (Water flea)

NOEC: 0.0041 µg/l
Exposure time: 21 d

Species: Daphnia magna (Water flea)

Exposure time:

Species: Pimephales promelas (fathead minnow)

NOEC: 0.00017 mg/l
Exposure time: 260 d

Species: Pimephales promelas (fathead minnow)

NOEC: 0.0041 µg/l
Exposure time: 21 d

Species: Daphnia magna (Water flea)

Exposure time:

Species: Pimephales promelas (fathead minnow)

NOEC: 0.00017 mg/l
Exposure time: 260 d

Species: Pimephales promelas (fathead minnow)

NOEC: 0.0041 µg/l
Exposure time: 21 d

Species: Daphnia magna (Water flea)

Exposure time:

Species: Pimephales promelas (fathead minnow)

NOEC: 0.00017 mg/l
Exposure time: 260 d

Species: Pimephales promelas (fathead minnow)

NOEC: 0.0041 µg/l
Exposure time: 21 d

Species: Daphnia magna (Water flea)

Exposure time:

Species: Pimephales promelas (fathead minnow)

NOEC: 0.00017 mg/l
Exposure time: 260 d

Species: Pimephales promelas (fathead minnow)

NOEC: 0.0041 µg/l
Exposure time: 21 d

Species: Daphnia magna (Water flea)

Exposure time:

Species: Pimephales promelas (fathead minnow)

NOEC: 0.00017 mg/l
Exposure time: 260 d

Species: Pimephales promelas (fathead minnow)

NOEC: 0.0041 µg/l
Exposure time: 21 d

Species: Daphnia magna (Water flea)

Exposure time:

Species: Pimephales promelas (fathead minnow)

NOEC: 0.00017 mg/l
Exposure time: 260 d

Species: Pimephales promelas (fathead minnow)

NOEC: 0.0041 µg/l
Exposure time: 21 d

Species: Daphnia magna (Water flea)

Exposure time:

Species: Pimephales promelas (fathead minnow)

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Exposure time: 260 d

Species: Pimephales promelas (fathead minnow)

NOEC: 0.0041 µg/l
Exposure time: 21 d

Species: Daphnia magna (Water flea)

Exposure time:

Species: Pimephales promelas (fathead minnow)

NOEC: 0.00017 mg/l
Exposure time: 260 d

Species: Pimephales promelas (fathead minnow)

NOEC: 0.0041 µg/l
Exposure time: 21 d

Species: Daphnia magna (Water flea)

Exposure time:

Species: Pimephales promelas (fathead minnow)

NOEC: 0.00017 mg/l
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Species: Pimephales promelas (fathead minnow)

NOEC: 0.0041 µg/l
Exposure time: 21 d

Species: Daphnia magna (Water flea)

Exposure time:

Species: Pimephales promelas (fathead minnow)

NOEC: 0.00017 mg/l
Exposure time: 260 d

Species: Pimephales promelas (fathead minnow)

NOEC: 0.0041 µg/l
Exposure time: 21 d

Species: Daphnia magna (Water flea)

Exposure time:

Species: Pimephales promelas (fathead minnow)

NOEC: 0.00017 mg/l
Exposure time: 260 d

Species: Pimephales promelas (fathead minnow)

NOEC: 0.0041 µg/l
Exposure time: 21 d

Species: Daphnia magna (Water flea)

Exposure time:

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NOEC: 0.00017 mg/l
Exposure time: 260 d

Species: Pimephales promelas (fathead minnow)

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Exposure time: 21 d

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Exposure time:

Species: Pimephales promelas (fathead minnow)

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Exposure time: 260 d

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Exposure time: 21 d

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Exposure time:

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Species: Pimephales promelas (fathead minnow)

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Species: Daphnia magna (Water flea)

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NOEC: 0.00017 mg/l
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Species: Pimephales promelas (fathead minnow)

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Exposure time: 21 d

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Species: Pimephales promelas (fathead minnow)

NOEC: 0.00017 mg/l
Exposure time: 260 d

Species: Pimephales promelas (fathead minnow)

NOEC: 0.0041 µg/l
Exposure time: 21 d

Species: Daphnia magna (Water flea)

Exposure time:

Species: Pimephales promelas (fathead minnow)

NOEC: 0.00017 mg/l
Exposure time: 260 d

Species: Pimephales promelas (fathead minnow)

NOEC: 0.0041 µg/l
Exposure time: 21 d

Species: Daphnia magna (Water flea)

Exposure time:

Species: Pimephales promelas (fathead minnow)

NOEC: 0.00017 mg/l
Exposure time: 260 d

Species: Pimephales promelas (fathead minnow)

NOEC: 0.0041 µg/l
Exposure time: 21 d

Species: Daphnia magna (Water flea)
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

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

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
14.3 Transport hazard class(es)

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<td>: FLAMMABLE LIQUID, TOXIC, N.O.S. (Ethylbenzene, Xylene)</td>
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<td>: FLAMMABLE LIQUID, TOXIC, N.O.S. (Ethylbenzene, Xylene, Deltamethrin (ISO))</td>
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<td>IATA (Cargo)</td>
<td>Packing instruction (cargo aircraft)</td>
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<td>Packing instruction (LQ)</td>
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<td></td>
<td>Labels</td>
<td>: Flammable Liquids, Toxic</td>
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<tr>
<td>IATA (Passenger)</td>
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</tbody>
</table>
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Deltamethrin (with Xylene) Formulation

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. 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 - 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

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)

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

Other regulations:
- Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.
- Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

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

<table>
<thead>
<tr>
<th>H225</th>
<th>: Highly flammable liquid and vapour.</th>
</tr>
</thead>
<tbody>
<tr>
<td>H226</td>
<td>: Flammable liquid and vapour.</td>
</tr>
<tr>
<td>H301</td>
<td>: Toxic if swallowed.</td>
</tr>
<tr>
<td>H304</td>
<td>: May be fatal if swallowed and enters airways.</td>
</tr>
<tr>
<td>H311</td>
<td>: Harmful in contact with skin.</td>
</tr>
<tr>
<td>H312</td>
<td>: Causes skin irritation.</td>
</tr>
<tr>
<td>H315</td>
<td>: May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>H319</td>
<td>: Causes serious eye irritation.</td>
</tr>
<tr>
<td>H331</td>
<td>: Toxic if inhaled.</td>
</tr>
<tr>
<td>H332</td>
<td>: Harmful if inhaled.</td>
</tr>
<tr>
<td>H335</td>
<td>: May cause respiratory irritation.</td>
</tr>
<tr>
<td>H336</td>
<td>: May cause drowsiness or dizziness.</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>H361f</td>
<td>: Suspected of damaging fertility. Suspected of damaging the unborn child.</td>
</tr>
<tr>
<td>H370</td>
<td>: Causes damage to organs.</td>
</tr>
<tr>
<td>H372</td>
<td>: Causes damage to organs through prolonged or repeated exposure if swallowed.</td>
</tr>
<tr>
<td>H372</td>
<td>: Causes damage to organs through prolonged or repeated exposure if inhaled.</td>
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</table>
Deltamethrin (with Xylene) Formulation

Version: 2.2  Revision Date: 09/13/2019  SDS Number: 2972630-00005  Date of last issue: 24.04.2019
Date of first issue: 02.07.2018

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
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
2006/15/EC: Europe. Indicative occupational exposure limit values
IE OEL: Ireland. List of Chemical Agents and Occupational Exposure Limit Values - Schedule 1
2000/39/EC / TWA: Limit Value - eight hours
2000/39/EC / STEL: Short term exposure limit
2006/15/EC / TWA: Limit Value - eight hours
IE OEL / OELV - 8 hrs (TWA): Occupational exposure limit value (8-hour reference period)
IE OEL / OELV - 15 min: Occupational exposure limit value (15-minute reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; 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 Civil Aviation Organization; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; ICS0 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IFSC - 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 Existing Chemical Substances; OELV - Occupational Exposure Limit Value; TWA - Limit Value - eight hours; STEL - Short term exposure limit.
Deltamethrin (with Xylene) Formulation

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


Classification of the mixture:

<table>
<thead>
<tr>
<th>Property</th>
<th>Classification</th>
<th>Calculation method</th>
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</thead>
<tbody>
<tr>
<td>Flam. Liq.</td>
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<td>Based on product data or assessment</td>
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<td>H302</td>
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<td>Skin Irrit. 2</td>
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<td>Eye Irrit. 2</td>
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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for 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.