Deltamethrin (with Xylene) Formulation

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Deltamethrin (with Xylene) Formulation

Manufacturer or supplier’s details
Company: MSD
Address: No. 485 Jing Tai Road
Pu Tuo District - Shanghai - China 200331
Telephone: +1-908-740-4000
Emergency telephone number: 86-571-87268110
E-mail address: EHSDATASTEWARD@msd.com

Recommended use of the chemical and restrictions on use
Recommended use: Veterinary product

2. HAZARDS IDENTIFICATION

Emergency Overview

| Appearance | liquid |
| Colour     | clear  |
|            | yellow |
| Odour      | No data available |

Flammable liquid and vapour. 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. Very toxic to aquatic life with long lasting effects.

GHS Classification

| Flammable liquids | Category 3 |
| Acute toxicity (Oral) | Category 4 |
| Acute toxicity (Inhalation) | Category 4 |
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 2A |
| Skin sensitisation | Category 1 |
| Germ cell mutagenicity | Category 1B |
| Carcinogenicity | Category 1B |
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<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date:</th>
<th>SDS Number:</th>
<th>Date of last issue:</th>
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<tbody>
<tr>
<td>2.5</td>
<td>2021/04/09</td>
<td>2972476-00008</td>
<td>2020/10/10</td>
<td>2018/07/02</td>
</tr>
</tbody>
</table>

- **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

**GHS label elements**

<table>
<thead>
<tr>
<th>Hazard pictograms</th>
<th>:</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="fire-icon" alt="Flammable liquid and vapour" /></td>
<td><img src="person-icon" alt="Harmful if swallowed or if inhaled" /></td>
</tr>
<tr>
<td><img src="person-icon" alt="Harmful if swallowed and enters airways" /></td>
<td><img src="egg-icon" alt="Suspected of damaging fertility" /></td>
</tr>
<tr>
<td><img src="skin-icon" alt="Causes skin irritation" /></td>
<td><img src="person-icon" alt="May be fatal if swallowed and enters airways" /></td>
</tr>
<tr>
<td><img src="allergy-icon" alt="May cause an allergic skin reaction" /></td>
<td><img src="cancer-icon" alt="May cause cancer" /></td>
</tr>
<tr>
<td><img src="respiratory-icon" alt="May cause respiratory irritation" /></td>
<td><img src="gene-icon" alt="May cause genetic defects" /></td>
</tr>
<tr>
<td><img src="organ-icon" alt="May cause damage to organs through prolonged or repeated exposure" /></td>
<td><img src="fish-icon" alt="Very toxic to aquatic life with long lasting effects" /></td>
</tr>
</tbody>
</table>

- **Signal word**: Danger


- **Precautionary statements**:
  - **Prevention**: P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking. P233 Keep container tightly closed. P241 Use explosion-proof electrical/ ventilating/ lighting equipment. P242 Use only non-sparking tools. P243 Take precautionary measures against static discharge. P260 Do not breathe mist or vapours. P264 Wash skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product.
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P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
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.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P331 Do NOT induce vomiting.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.

Storage:
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Physical and chemical hazards
Flammable liquid and vapour.

Health hazards
Harmful if swallowed. Harmful if inhaled. Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. May cause genetic defects. May cause cancer. Suspected of damaging fertility. Suspected of damaging the unborn child. May cause respiratory irritation. May cause damage to organs through prolonged or repeated exposure. May be fatal if swallowed and enters airways.

Environmental hazards
Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Other hazards which do not result in classification
Vapours may form explosive mixture with air.

3. COMPOSITION/INFORMATION ON INGREDIENTS
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**4. 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.

**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.

**Most important symptoms and effects, both acute and delayed**
- 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.

**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).
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Notes to physician: Treat symptomatically and supportively.

5. FIREFIGHTING MEASURES

Suitable extinguishing media:
- Water spray
- Alcohol-resistant foam
- Carbon dioxide (CO2)
- Dry chemical

Unsuitable extinguishing media:
- High volume water jet

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

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.

Special protective equipment for firefighters:
- In the event of fire, wear self-contained breathing apparatus.
- Use personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:
- Remove all sources of ignition.
- Use personal protective equipment.
- Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

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

Methods and materials for containment and 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 dis-
posal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

7. HANDLING AND STORAGE

Handling
Technical measures: See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
Local/Total ventilation: If sufficient ventilation is unavailable, use with local exhaust ventilation. Use explosion-proof electrical, ventilating and lighting equipment.
Advice on safe handling: Do not get on skin or clothing. Do not breathe mist or vapours. Do not swallow. Do not get in eyes. Wash skin thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment. Non-sparking tools should be used. Keep container tightly closed. Already sensitised individuals should consult their physician regarding working with respiratory irritants or sensitisers. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Do not eat, drink or smoke when using this product. Take care to prevent spills, waste and minimize release to the environment.
Avoidance of contact: Oxidizing agents

Storage
Materials to avoid: Do not store with the following product types: Self-reactive substances and mixtures Organic peroxides Oxidizing agents Flammable gases Pyrophoric liquids Pyrophoric solids Self-heating substances and mixtures Poisonous gases Explosives
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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylbenzene</td>
<td>100-41-4</td>
<td>PC-TWA</td>
<td>100 mg/m³</td>
<td>CN OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PC-STEL 150 mg/m³</td>
<td>CN OEL</td>
</tr>
<tr>
<td>Further information: G2B - Possibly carcinogenic to humans</td>
<td></td>
<td>TWA 20 ppm</td>
<td>ACGIH</td>
<td></td>
</tr>
<tr>
<td>Xylene</td>
<td>1330-20-7</td>
<td>PC-TWA</td>
<td>50 mg/m³</td>
<td>CN OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PC-STEL 100 mg/m³</td>
<td>CN OEL</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA 100 ppm</td>
<td>ACGIH</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL 150 ppm</td>
<td>ACGIH</td>
<td></td>
</tr>
<tr>
<td>Xylol (ISO)</td>
<td>52918-63-5</td>
<td>PC-TWA</td>
<td>0.03 mg/m³</td>
<td>CN OEL</td>
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<tr>
<td></td>
<td></td>
<td>TWA 15 µg/m³ (OEB 3)</td>
<td>Internal</td>
<td></td>
</tr>
<tr>
<td>Further information: DSEN, Skin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wipe limit</td>
<td></td>
<td>150 µg/100 cm²</td>
<td>Internal</td>
<td></td>
</tr>
<tr>
<td>2,6-Di-tert-butyl-p-cresol</td>
<td>128-37-0</td>
<td>TWA (Inhalable fraction and vapor)</td>
<td>2 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Solvent naphtha (petroleum), light aromatic</td>
<td>64742-95-6</td>
<td>TWA</td>
<td>200 mg/m³ (total hydrocarbon vapor)</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Methanol</td>
<td>67-56-1</td>
<td>PC-TWA</td>
<td>25 mg/m³</td>
<td>CN OEL</td>
</tr>
<tr>
<td>Further information: Skin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>PC-STEL 50 mg/m³</td>
<td>CN OEL</td>
<td></td>
</tr>
<tr>
<td>Further information: Skin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA 200 ppm</td>
<td>ACGIH</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL 250 ppm</td>
<td>ACGIH</td>
<td></td>
</tr>
</tbody>
</table>

Biological occupational exposure limits

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Biological specimen</th>
<th>Sampling time</th>
<th>Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylbenzene</td>
<td>100-41-4</td>
<td>Mandelic acid and phenylglyoxylic acid (MA and PGA)</td>
<td>Urine</td>
<td>End of shift</td>
<td>0.8 g/g creatinine</td>
<td>CN BEI</td>
</tr>
<tr>
<td>Sum of mandelic acid and phenyl glyoxylic acid</td>
<td></td>
<td>Urine</td>
<td>End of shift (As soon as possible after exposure ceases)</td>
<td>0.15 g/g creatinine</td>
<td>ACGIH BEI</td>
<td></td>
</tr>
</tbody>
</table>

Packaging material : Unsuitable material: None known.
Engineering measures

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

Minimize open handling.

Use explosion-proof electrical, ventilating and lighting equipment.

Personal protective equipment

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

Eye/face 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.

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.

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.

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

9. 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

Flammability (liquids): 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
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10. STABILITY AND REACTIVITY

Reactivity: Not classified as a reactivity hazard.
Chemical stability: Stable under normal conditions.
Possibility of hazardous reactions:
- Flammable liquid and vapour.
- Vapours may form explosive mixture with air.
- Can react with strong oxidizing agents.

Conditions to avoid: Heat, flames and sparks.
Incompatible materials: Oxidizing agents
Hazardous decomposition products: No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

Exposure routes: Inhalation, Skin contact, Ingestion, Eye contact

Acute toxicity
Harmful if swallowed or if inhaled.

Product:
- Acute oral toxicity: Acute toxicity estimate: 997.09 mg/kg
  Method: Calculation method
- Acute inhalation toxicity: Acute toxicity estimate: 18.89 mg/l
  Exposure time: 4 h
  Test atmosphere: vapour
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Method: Calculation method

Acute dermal toxicity: Acute toxicity estimate: > 5,000 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: LC50 (Rat): 27.571 mg/l
  Exposure time: 4 h
  Test atmosphere: vapour
Acute dermal toxicity: LD50 (Rabbit): > 4,200 mg/kg

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:
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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 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

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
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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
Result: No eye irritation
Method: OECD Test Guideline 405
Remarks: Based on data from similar materials

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

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
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Species: Mouse
Result: negative

deltamethrin (ISO):
Test Type: Maximisation Test
Exposure routes: Dermal
Species: Guinea pig
Result: negative

: Human repeat insult patch test (HRIPT)
: Dermal
: Humans
: 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
Result: negative

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
Result: negative

Genotoxicity in vivo: Test Type: Unscheduled DNA synthesis (UDS) test with mammalian liver cells in vivo
Species: Mouse
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<table>
<thead>
<tr>
<th>Application Route</th>
<th>Inhalation Method: OECD Test Guideline 486</th>
<th>Result: negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method: OECD Test Guideline 486</td>
<td>Result: negative</td>
<td></td>
</tr>
<tr>
<td>Test Type: Chromosome aberration test in vitro</td>
<td>Result: negative</td>
<td></td>
</tr>
<tr>
<td>Test Type: In vitro mammalian cell gene mutation test</td>
<td>Result: negative</td>
<td></td>
</tr>
<tr>
<td>Test Type: In vitro sister chromatid exchange assay in mammalian cells</td>
<td>Result: negative</td>
<td></td>
</tr>
</tbody>
</table>

**Xylene:**

- **Genotoxicity in vitro**
  - Test Type: Bacterial reverse mutation assay (AMES)
    - Result: negative
  - Test Type: Chromosome aberration test in vitro
    - Result: negative
  - Test Type: In vitro mammalian cell gene mutation test
    - Result: negative
  - Test Type: In vitro sister chromatid exchange assay in mammalian cells
    - Result: negative

**Genotoxicity in vivo**

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

**deltamethrin (ISO):**

- **Genotoxicity in vitro**
  - Test Type: Bacterial reverse mutation assay (AMES)
    - Result: negative
  - Test Type: DNA Repair
    - Test system: Escherichia coli
    - Result: negative
  - Test Type: Chromosomal aberration
    - Test system: Chinese hamster ovary cells
    - Result: negative
  - Test Type: In vitro mammalian cell gene mutation test
    - Test system: Chinese hamster lung cells
    - Concentration: LOAEL: 20 mg/kg
    - Result: positive

- **Genotoxicity in vivo**
  - Test Type: Micronucleus test
    - Species: Mouse
    - Application Route: Oral
    - Result: negative
  - Test Type: dominant lethal test
    - Species: Mouse
    - Application Route: Oral
    - Result: negative
  - Test Type: sister chromatid exchange assay
    - Species: Mouse
    - Cell type: Bone marrow
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Application Route: Oral
Result: negative

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

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

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

Test Type: Chromosome aberration test in vitro
Result: negative

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

Solvent naphtha (petroleum), light aromatic:

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

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

Genotoxicity in vivo:
Test Type: Sister chromatid exchange analysis in spermato-gonia
Species: Mouse
Application Route: Intraperitoneal injection
Result: positive

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

Methanol:

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

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

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

Carcinogenicity
May cause cancer.
### Components:

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

**Carcinogenicity - Assessment**: Limited evidence of carcinogenicity in animal studies.  
**Remarks**: Based on the Catalogue of Hazardous Chemicals of China

#### 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

- **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:**

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

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

**Components:**

**Ethylbenzene:**

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

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

**Xylene:**

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

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

**deltamethrin (ISO):**

| Effects on fertility | Test Type: Three-generation reproduction toxicity study  
|                      | Species: Rat  
|                      | Application Route: oral (feed)  
|                      | Early Embryonic Development: NOAEL: 50 mg/kg body weight  
|                      | Symptoms: No effects on fertility, Embryo-foetal toxicity  
|                      | Remarks: Significant toxicity observed in testing  
|                      | Test Type: Two-generation reproduction toxicity study  
|                      | Species: Rat  
|                      | Application Route: Oral  
|                      | Early Embryonic Development: LOAEL: 84 - 149 mg/kg body |
Deltamethrin (with Xylene) Formulation

Effects on foetal development:

- **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.

- **Effects on foetal development**: Test Type: Development
  - Species: Rat, female
  - Developmental Toxicity: NOAEL: 10 mg/kg body weight
  - Symptoms: No effects on foetal development

- **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:

- **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
Deltamethrin (with Xylene) Formulation

<table>
<thead>
<tr>
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<td>2972476-00008</td>
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<td>2018/07/02</td>
</tr>
</tbody>
</table>

**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 (with Xylene) Formulation**

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<tr>
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</tbody>
</table>

**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
- **Application Route**: Inhalation (vapour)
- **Exposure time**: 13 Weeks
- **Remarks**: Based on data from similar materials

- **Species**: Rat
- **LOAEL**: 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
## Deltamethrin (with Xylene) Formulation

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</tbody>
</table>

**Species**: Rat  
**LOAEL**: 3 mg/m³  
**Application Route**: Inhalation (dust/mist/fume)  
**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

**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  
**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

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Ethylbenzene:

Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): 4.2 mg/l
Method: OECD Test Guideline 203

Exposure time: 96 h

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 daphnia and other aquatic invertebrates (Chronic toxicity): NOEC (Ceriodaphnia dubia (water flea)): 0.96 mg/l
Exposure time: 7 d
## Deltamethrin (with Xylene) Formulation

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Toxicity to microorganisms</strong></td>
<td>EC50 (Nitrosomonas sp.): 96 mg/l</td>
</tr>
<tr>
<td>Exposure time</td>
<td>24 h</td>
</tr>
<tr>
<td><strong>Xylene</strong></td>
<td></td>
</tr>
<tr>
<td>Toxuscity to fish</td>
<td>LC50 (Oncorhynchus mykiss (rainbow trout)): 13.5 mg/l</td>
</tr>
<tr>
<td>Exposure time</td>
<td>96 h</td>
</tr>
<tr>
<td>Toxicity to daphnia and other aquatic invertebrates</td>
<td>EC50 (Daphnia magna (Water flea)): &gt; 1 - 10 mg/l</td>
</tr>
<tr>
<td>Exposure time</td>
<td>24 h</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 202</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
<tr>
<td>Toxicity to algae/aquatic plants</td>
<td>EC50 (Skeletonema costatum (marine diatom)): 10 mg/l</td>
</tr>
<tr>
<td>Exposure time</td>
<td>72 h</td>
</tr>
<tr>
<td>Toxicity to fish (Chronic toxicity)</td>
<td>NOEC (Danio rerio (zebra fish)): &gt; 0.1 - &lt; 1 mg/l</td>
</tr>
<tr>
<td>Exposure time</td>
<td>35 d</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 210</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
<tr>
<td>Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)</td>
<td>EL10 (Daphnia magna (Water flea)): &gt; 1 - 10 mg/l</td>
</tr>
<tr>
<td>Exposure time</td>
<td>21 d</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 211</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
<tr>
<td>Toxicity to microorganisms</td>
<td>NOEC: &gt; 100 mg/l</td>
</tr>
<tr>
<td>Exposure time</td>
<td>3 h</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 209</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
<tr>
<td><strong>4-Nonylphenol, branched, ethoxylated</strong></td>
<td></td>
</tr>
<tr>
<td>Toxicity to fish</td>
<td>LC50: 44 mg/l</td>
</tr>
<tr>
<td>Exposure time</td>
<td>96 h</td>
</tr>
<tr>
<td>Toxicity to daphnia and other aquatic invertebrates</td>
<td>EC50: 68 mg/l</td>
</tr>
<tr>
<td>Exposure time</td>
<td>48 h</td>
</tr>
<tr>
<td><strong>deltamethrin (ISO)</strong></td>
<td></td>
</tr>
<tr>
<td>Toxicity to fish</td>
<td>LC50 (Cyprinodon variegatus (sheepshead minnow)): 0.00048 mg/l</td>
</tr>
<tr>
<td>Exposure time</td>
<td>96 h</td>
</tr>
<tr>
<td>LC50 (Oncorhynchus mykiss (rainbow trout)): 0.00039 mg/l</td>
<td></td>
</tr>
<tr>
<td>Exposure time</td>
<td>96 h</td>
</tr>
<tr>
<td>Toxicity to daphnia and other aquatic invertebrates</td>
<td>EC50 (Mysidopsis bahia (opossum shrimp)): 0.0037 µg/l</td>
</tr>
<tr>
<td>Exposure time</td>
<td>48 h</td>
</tr>
<tr>
<td>EC50 (Daphnia magna (Water flea)): 0.0035 mg/l</td>
<td></td>
</tr>
<tr>
<td>Exposure time</td>
<td>48 h</td>
</tr>
<tr>
<td>LC50 (Gammarus fasciatus (freshwater shrimp)): 0.0003 µg/l</td>
<td></td>
</tr>
</tbody>
</table>
## Deltamethrin (with Xylene) Formulation

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

Exposure time: 96 h

### Toxicity to algae/aquatic plants

<table>
<thead>
<tr>
<th>Method</th>
<th>EC50 (Pseudokirchneriella subcapitata (green algae)): &gt; 9.1 mg/l</th>
<th>Exposure time: 72 h</th>
</tr>
</thead>
</table>

Method: OECD Test Guideline 201
Remarks: No toxicity at the limit of solubility

### M-Factor (Acute aquatic toxicity)

<table>
<thead>
<tr>
<th>Method</th>
<th>1,000,000</th>
</tr>
</thead>
</table>

### Toxicity to fish (Chronic toxicity)

<table>
<thead>
<tr>
<th>Method</th>
<th>NOEC (Pimephales promelas (fathead minnow)): 0.000022 mg/l</th>
<th>Exposure time: 36 d</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Method</th>
<th>NOEC (Pimephales promelas (fathead minnow)): 0.000017 mg/l</th>
<th>Exposure time: 260 d</th>
</tr>
</thead>
</table>

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

<table>
<thead>
<tr>
<th>Method</th>
<th>NOEC (Daphnia magna (Water flea)): 0.0041 µg/l</th>
<th>Exposure time: 21 d</th>
</tr>
</thead>
</table>

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

#### Toxicity to fish

<table>
<thead>
<tr>
<th>Method</th>
<th>LC50 (Danio rerio (zebra fish)): &gt; 0.57 mg/l</th>
<th>Exposure time: 96 h</th>
</tr>
</thead>
</table>


#### Toxicity to daphnia and other aquatic invertebrates

<table>
<thead>
<tr>
<th>Method</th>
<th>EC50 (Daphnia magna (Water flea)): 0.48 mg/l</th>
<th>Exposure time: 48 h</th>
</tr>
</thead>
</table>

Method: OECD Test Guideline 202

#### Toxicity to algae/aquatic plants

<table>
<thead>
<tr>
<th>Method</th>
<th>ErC50 (Pseudokirchneriella subcapitata (green algae)): &gt; 0.24 mg/l</th>
<th>Exposure time: 72 h</th>
</tr>
</thead>
</table>

Method: OECD Test Guideline 201
Remarks: No toxicity at the limit of solubility

### M-Factor (Acute aquatic toxicity)

<table>
<thead>
<tr>
<th>Method</th>
<th>1</th>
</tr>
</thead>
</table>

### Toxicity to fish (Chronic toxicity)

<table>
<thead>
<tr>
<th>Method</th>
<th>NOEC (Oryzias latipes (Japanese medaka)): 0.053 mg/l</th>
<th>Exposure time: 30 d</th>
</tr>
</thead>
</table>

Method: OECD Test Guideline 210

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

<table>
<thead>
<tr>
<th>Method</th>
<th>NOEC (Daphnia magna (Water flea)): 0.316 mg/l</th>
<th>Exposure time: 21 d</th>
</tr>
</thead>
</table>

### M-Factor (Chronic aquatic toxicity)

<table>
<thead>
<tr>
<th>Method</th>
<th>1</th>
</tr>
</thead>
</table>
Deltamethrin (with Xylene) Formulation

Toxicity to microorganisms:
EC50: > 10,000 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

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 (Daphnia magna (Water flea)): 2.6 mg/l
Exposure time: 21 d
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

NOEC (Oryzias latipes (Orange-red killifish)): 15,800 mg/l
Exposure time: 200 h

Toxicity to microorganisms:
IC50: > 1,000 mg/l
Exposure time: 3 h

Persistence and degradability

Components:

Ethylbenzene:
Deltamethrin (with Xylene) Formulation

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

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
Deltamethrin (with Xylene) Formulation

Partition coefficient: n-octanol/water

2,6-Di-tert-butyl-p-cresol:
Bioaccumulation: Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 330 - 1,800

Partition coefficient: n-octanol/water

Methanol:
Bioaccumulation: Species: Leuciscus idus (Golden orfe)
Bioconcentration factor (BCF): < 10

Partition coefficient: n-octanol/water

Mobility in soil

Components:
deltamethrin (ISO):
Distribution among environmental compartments: log Koc: 7.2

Other adverse effects
No data available

13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues: Dispose of in accordance with local regulations.
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.

14. TRANSPORT INFORMATION

International Regulations

UNRTDG
UN number: UN 1992
Proper shipping name: FLAMMABLE LIQUID, TOXIC, N.O.S. (Ethylbenzene, Xylene)
Class: 3
Subsidiary risk: 6.1
Packing group: III
Labels: 3 (6.1)

IATA-DGR
UN/ID No.: UN 1992
Proper shipping name: Flammable liquid, toxic, n.o.s. (Ethylbenzene, Xylene)

Class: 3

Subsidiary risk: 6.1

Packing group: III

Labels: Flammable Liquids, Toxic

Packing instruction (cargo aircraft): 366

Packing instruction (passenger aircraft): 355

IMDG-Code

UN number: UN 1992

Proper shipping name: FLAMMABLE LIQUID, TOXIC, N.O.S. (Ethylbenzene, Xylene, deltamethrin (ISO))

Class: 3

Subsidiary risk: 6.1

Packing group: III

Labels: 3 (6.1)

EmS Code: F-E, S-D

Marine pollutant: yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

GB 6944/12268

UN number: UN 1992

Proper shipping name: FLAMMABLE LIQUID, TOXIC, N.O.S. (Ethylbenzene, Xylene)

Class: 3

Subsidiary risk: 6.1

Packing group: III

Labels: 3 (6.1)

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.

15. REGULATORY INFORMATION

National regulatory information

Law on the Prevention and Control of Occupational Diseases

Regulations on Safety Management of Hazardous Chemicals

Catalogue of Hazardous Chemicals: Listed

Identification of Major Hazard Installations for Hazardous Chemicals (GB 18218)

<table>
<thead>
<tr>
<th>No. / Code</th>
<th>Chemical name / Category</th>
<th>Threshold quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>W5.4</td>
<td>Flammable liquids</td>
<td>5,000 t</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET
according to GB/T 16483 and GB/T 17519

Deltamethrin (with Xylene) Formulation

Version 2.5
Revision Date: 2021/04/09
SDS Number: 2972476-00008

Date of last issue: 2020/10/10
Date of first issue: 2018/07/02

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

<table>
<thead>
<tr>
<th>Inventory</th>
<th>Determination</th>
</tr>
</thead>
<tbody>
<tr>
<td>AICS</td>
<td>not determined</td>
</tr>
<tr>
<td>DSL</td>
<td>not determined</td>
</tr>
<tr>
<td>IECSC</td>
<td>not determined</td>
</tr>
</tbody>
</table>

16. OTHER INFORMATION

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

Date format:
- yyyy/mm/dd

Full text of other abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>USA. ACGIH Threshold Limit Values (TLV)</td>
</tr>
<tr>
<td>ACGIH BEI</td>
<td>ACGIH - Biological Exposure Indices (BEI)</td>
</tr>
<tr>
<td>CN BEI</td>
<td>China. Biological Occupational Exposure Indices</td>
</tr>
<tr>
<td>CN OEL</td>
<td>Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.</td>
</tr>
<tr>
<td>ACGIH / TWA</td>
<td>8-hour, time-weighted average</td>
</tr>
<tr>
<td>ACGIH / STEL</td>
<td>Short-term exposure limit</td>
</tr>
<tr>
<td>CN OEL / PC-TWA</td>
<td>Permissible concentration - time weighted average</td>
</tr>
<tr>
<td>CN OEL / PC-STEL</td>
<td>Permissible concentration - short term exposure limit</td>
</tr>
</tbody>
</table>

All other abbreviations:
- AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); 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; ERG - Emergency Response Guide; 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; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemicals; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); IS - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LD50 - Lethal Dose to 50% of a test population; LC50 - Lethal Concentration to 50% of a test population; MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxictology Program; 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, Evalua-
SAFETY DATA SHEET
geren to GB/T 16483 and GB/T 17519

Deltamethrin (with Xylene) Formulation

Version 2.5  Revision Date: 2021/04/09  SDS Number: 2972476-00008  Date of last issue: 2020/10/10

Disclaimer
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.

CN / EN