SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Deltamethrin (with Xylene) Formulation

Manufacturer or supplier’s details
Company : MSD
Address : Rua Coronel Bento Soares, 530
Cruzeiro - Sao Paulo - Brazil  CEP 12730-340
Telephone : 908-740-4000
Emergency telephone : 1-908-423-6000
E-mail address : EHSDATASTEWARD@msd.com
Telefax : 908-735-1496

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

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification in accordance with ABNT NBR 14725 Standard
Flammable liquids : Category 3
Acute toxicity (Oral) : Category 4
Acute toxicity (Inhalation) : Category 4
Skin irritation : Category 2
Eye irritation : Category 2A
Skin sensitization : 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 (Oral) : Category 1 (Central nervous system, Immune system)
Specific target organ toxicity - repeated exposure (Inhalation) : Category 1 (Central nervous system)
SAFETY DATA SHEET

Deltamethrin (with Xylene) Formulation

Specific target organ toxicity - repeated exposure : Category 2 (Auditory system)

Aspiration hazard : Category 1

Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 1

GHS label elements in accordance with ABNT NBR 14725 Standard

Signal Word : Danger

Hazard Statements :
H226 Flammable liquid and vapor.
H302 + H332 Harmful if swallowed or if inhaled.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H340 May cause genetic defects.
H350 May cause cancer.
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
H372 Causes damage to organs (Central nervous system, Immune system) through prolonged or repeated exposure if swallowed.
H372 Causes damage to organs (Central nervous system) through prolonged or repeated exposure if inhaled.
H373 May cause damage to organs (Auditory system) 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/sparks/open flames/hot surfaces.
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.
Other hazards which do not result in classification
Vapors may form explosive mixture with air.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substance / Mixture</th>
<th>Composition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ethylbenzene</strong></td>
<td>Mixture</td>
</tr>
<tr>
<td><strong>Xylene</strong></td>
<td>Mixture</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Classification</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylbenzene</td>
<td>100-41-4</td>
<td>Flammable liquids, Category 2</td>
<td>&gt;= 30 &lt; 50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute toxicity (Oral), Category 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute toxicity (Inhalation), Category 4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Specific target organ toxicity - repeated exposure (Auditory system), Category 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Aspiration hazard, Category 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Short-term (acute) aquatic hazard, Category 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Long-term (chronic) aquatic hazard, Category 3</td>
<td></td>
</tr>
<tr>
<td>Xylene</td>
<td>1330-20-7</td>
<td>Flammable liquids, Category 3</td>
<td>&gt;= 30 &lt; 50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute toxicity (Oral), Category 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute toxicity (Inhalation), Category 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute toxicity (Dermal), Category 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Skin irritation, Category 2</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Eye irritation, Category 2A</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Specific target organ toxicity - single exposure, Category 3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Specific target organ toxicity - repeated exposure (Auditory system), Category 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Aspiration hazard, Category 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Short-term (acute) aquatic hazard, Category 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Long-term (chronic) aquatic hazard, Category 3</td>
<td></td>
</tr>
<tr>
<td>Substance</td>
<td>SDS Number</td>
<td>Acute Toxicity (Oral), Category</td>
<td>Aquatic Hazard</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>------------</td>
<td>---------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>4-Nonylphenol, branched, ethoxylated</td>
<td>127087-87-0</td>
<td>Acute toxicity (Oral), Category 5</td>
<td></td>
</tr>
<tr>
<td>Deltamethrin (ISO)</td>
<td>52918-63-5</td>
<td>Acute toxicity (Oral), Category 3</td>
<td></td>
</tr>
<tr>
<td>2,6-Di-tert-butyl-p-cresol</td>
<td>128-37-0</td>
<td>Short-term (acute) aquatic hazard, Category 1</td>
<td></td>
</tr>
<tr>
<td>Solvent naphtha (petroleum), light aromatic</td>
<td>64742-95-6</td>
<td>Flammable liquids, Category 3</td>
<td></td>
</tr>
</tbody>
</table>

Date of last issue: 24.04.2019
Date of first issue: 02.07.2018
### Section 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 center 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.
- Causes damage to organs through prolonged or repeated exposure if swallowed.
- Causes damage to organs through prolonged or repeated exposure if inhaled.
- 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).

Notes to physician:
- Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

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

Unsuitable extinguishing media:
- High volume water jet

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.
- Vapors 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 fire-fighters:
- In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:
- Remove all sources of ignition.
- Use personal protective equipment.
- Follow safe handling advice and personal protective equipment recommendations.
SECTION 7. HANDLING AND STORAGE

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.

Methods and materials for containment and cleaning up : Non-sparking tools should be used. Soak up with inert absorbent material. Suppress (knock down) gases/vapors/mists with a water spray jet. For large spills, provide diking or other appropriate containment to keep material from spreading. If diked 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.

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 vapors 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 sensitized individuals should consult their physician regarding working with respiratory irritants or sensitizers. 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.

Conditions for safe storage:
- Keep in properly labeled 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.

Materials to avoid:
- 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

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Ingredients 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>LT</td>
<td>78 ppm 340 mg/m³</td>
<td>BR OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>20 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Xylene</td>
<td>1330-20-7</td>
<td>LT</td>
<td>78 ppm 340 mg/m³</td>
<td>BR OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>100 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>150 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Deltamethrin (ISO)</td>
<td>52918-63-5</td>
<td>TWA</td>
<td>15 µg/m³ (OEB 3)</td>
<td>Internal</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>LT</td>
<td>156 ppm 200 mg/m³</td>
<td>BR OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wipe limit</td>
<td>150 µg/100 cm²</td>
<td>Internal</td>
</tr>
</tbody>
</table>

Further information: Degree of harmfulness: maximum
<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</td>
<td>Urine</td>
<td>Final shift at the end of the week</td>
<td>1.5 g/g creatinine</td>
<td>BR BEI</td>
</tr>
<tr>
<td>Sum of mandelic acid and phenyl glyoxylic acid</td>
<td></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>
</tr>
<tr>
<td>Xylene</td>
<td>1330-20-7</td>
<td>methyl hippuric acid</td>
<td>Urine</td>
<td>End of last day of the working day (recommended to avoid the first day of the week)</td>
<td>1.5 g/g creatinine</td>
<td>BR BEI</td>
</tr>
<tr>
<td>Methanol</td>
<td>67-56-1</td>
<td>Methanol</td>
<td>Urine</td>
<td>End of shift (As soon as possible after exposure ceases)</td>
<td>15 mg/l</td>
<td>BR BEI</td>
</tr>
</tbody>
</table>
### 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

#### 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 vapor type

#### Hand protection

Material: Chemical-resistant gloves

#### 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.

#### 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.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Appearance</th>
<th>liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>clear</td>
</tr>
<tr>
<td></td>
<td>yellow</td>
</tr>
</tbody>
</table>
### Odor
No data available

### Odor 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

### Vapor pressure
No data available

### Relative vapor density
No data available

### Relative density
No data available

### Density
No data available

### Solubility(ies)

<table>
<thead>
<tr>
<th>Water solubility</th>
<th>No data available</th>
</tr>
</thead>
</table>

### Partition coefficient: n-octanol/water
Not applicable

### Autoignition temperature
No data available

### Decomposition temperature
No data available

### Viscosity

<table>
<thead>
<tr>
<th>Viscosity, kinematic</th>
<th>No data available</th>
</tr>
</thead>
</table>

### Explosive properties
Not explosive

### Oxidizing properties
The substance or mixture is not classified as oxidizing.

### Molecular weight
No data available

### Particle size
Not applicable
SECTION 10. STABILITY AND REACTIVITY

Reactivity: Not classified as a reactivity hazard.
Chemical stability: Stable under normal conditions.
Possibility of hazardous reactions: Flammable liquid and vapor.
Vapors 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.

SECTION 11. TOXICOLOGICAL INFORMATION

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: 997,09 mg/kg
Method: Calculation method

Acute inhalation toxicity: Acute toxicity estimate: 18,89 mg/l
Exposure time: 4 h
Test atmosphere: vapor
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: vapor

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: vapor
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:
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: vapor

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

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

Acute inhalation toxicity: Acute toxicity estimate: 3 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Method: Expert judgment  
Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

Acute dermal toxicity  
Method: Expert judgment  
Acute toxicity estimate (Humans): 300 mg/kg

Skin corrosion/irritation  
Causes skin irritation.

Components:

Xylene:
Species: Rabbit  
Result: Skin irritation

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

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

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

Methanol:
Species: Rabbit  
Result: No skin irritation

Serious eye damage/eye irritation  
Causes serious eye irritation.

Components:

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

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

2,6-Di-tert-butyl-p-cresol:
Species: Rabbit
### Solvent naphtha (petroleum), light aromatic:

**Species**: Rabbit  
**Result**: No eye irritation  
**Method**: OECD Test Guideline 405

### Methanol:

**Species**: Rabbit  
**Result**: No eye irritation  
**Method**: OECD Test Guideline 405

### Respiratory or skin sensitization

**Skin sensitization**
May cause an allergic skin reaction.

**Respiratory sensitization**
Not classified based on available information.

### Components:

**Xylene**:
- **Test Type**: Local lymph node assay (LLNA)  
- **Routes of exposure**: Skin contact  
- **Species**: Mouse  
- **Result**: negative

**Deltamethrin (ISO)**:
- **Test Type**: Maximization Test  
- **Routes of exposure**: 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)  
- **Routes of exposure**: Skin contact  
- **Species**: Humans  
- **Result**: negative

**Solvent naphtha (petroleum), light aromatic**:
- **Test Type**: Buehler Test  
- **Routes of exposure**: Skin contact  
- **Species**: Guinea pig  
- **Result**: negative
Methanol:
- Test Type: Maximization Test
- Routes of exposure: 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
  - Application Route: Inhalation
  - Method: OECD Test Guideline 486
  - Result: negative

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

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

**Deltamethrin (ISO):**
- Genotoxicity in vitro:
  - Test Type: Bacterial reverse mutation assay (AMES)
    - Result: negative
Test Type: DNA Repair  
Test system: Escherichia coli  
Result: negative

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

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

Genotoxicity in vivo:

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-
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 (vapor)
Exposure time: 104 weeks
Result: positive
Remarks: The mechanism or mode of action may not be relevant in humans.

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

Deltamethrin (ISO):
Species: Mouse, male and female
Application Route: Oral (feed)
Exposure time: 104 weeks
NOAEL: 8 mg/kg body weight
LOAEL: 4 mg/kg body weight
Result: positive
Target Organs: Lymph nodes
Species: Rat, male and female
Application Route: Oral (feed)
Exposure time: 2 Years
Result: negative
Species: Dog, male and female
Application Route: oral (feed)
Exposure time: 2 Years
NOAEL: 1 mg/kg body weight
Result: negative

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

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

Carcinogenicity - Assessment: Sufficient evidence of carcinogenicity in animal experiments

Methanol:
Species: Mouse
Application Route: inhalation (vapor)
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 (vapor)
Method: OECD Test Guideline 416
Result: negative

Effects on fetal development:
Test Type: Embryo-fetal 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 (vapor)
Result: negative
### 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>4.1</td>
<td>09/13/2019</td>
<td>2972479-00005</td>
<td>24.04.2019</td>
<td>02.07.2018</td>
</tr>
</tbody>
</table>

#### Effects on fetal development
- **Test Type:** Embryo-fetal development  
  **Species:** Rat  
  **Application Route:** inhalation (vapor)  
  **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-fetal toxicity.  
  **Remarks:** Significant toxicity observed in testing  

- **Test Type:** Two-generation reproduction toxicity study  
  **Species:** Rat  
  **Application Route:** Oral  
  **Early Embryonic Development:** LOAEL: 84 - 149 mg/kg body weight  
  **Symptoms:** No effects on fertility., Embryo-fetal toxicity.

- **Test Type:** Fertility  
  **Species:** Rat, male  
  **Application Route:** Oral  
  **Fertility:** LOAEL: 1 mg/kg body weight  
  **Symptoms:** Effects on fertility.  
  **Target Organs:** Testes

- **Test Type:** Development  
  **Species:** Mouse  
  **Application Route:** oral (gavage)  
  **Developmental Toxicity:** LOAEL: 1 mg/kg body weight  
  **Result:** Skeletal malformations.  
  **Remarks:** Maternal toxicity observed.

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

- **Test Type:** Development  
  **Species:** Rabbit, female  
  **Application Route:** oral (gavage)  
  **Developmental Toxicity:** NOAEL: 16 mg/kg body weight  
  **Symptoms:** No effects on fetal 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
Effects on fetal development:
- Test Type: Embryo-fetal 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 (vapor)
  - Result: negative

Effects on fetal development:
- Test Type: Embryo-fetal development
  - Species: Rat
  - Application Route: inhalation (vapor)
  - Result: negative

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

Effects on fetal development:
- Test Type: Embryo-fetal 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
Causes damage to organs (Central nervous system, Immune system) through prolonged or repeated exposure if swallowed.
Causes damage to organs (Central nervous system) through prolonged or repeated exposure if inhaled.
May cause damage to organs (Auditory system) through prolonged or repeated exposure.

Components:

Ethylbenzene:
Routes of exposure: inhalation (vapor)
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:
Routes of exposure: inhalation (vapor)
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):
Routes of exposure: Ingestion
Target Organs: Central nervous system, Immune system
Assessment: Causes damage to organs through prolonged or repeated exposure.

Routes of exposure: 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 (vapor)
Exposure time: 13 Weeks

Species: Rat
NOAEL: 75 mg/kg
LOAEL: 250 mg/kg
Application Route: Ingestion
Method: OECD Test Guideline 408
SAFETY DATA SHEET

Deltamethrin (with Xylene) Formulation

<table>
<thead>
<tr>
<th>Xylene:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Species</td>
<td>Rat</td>
</tr>
<tr>
<td>LOAEL</td>
<td>&gt; 0.2 - 1 mg/l</td>
</tr>
<tr>
<td>Application Route</td>
<td>inhalation (vapor)</td>
</tr>
<tr>
<td>Exposure time</td>
<td>13 Weeks</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
<tr>
<td>Species</td>
<td>Rat</td>
</tr>
<tr>
<td>LOAEL</td>
<td>150 mg/kg</td>
</tr>
<tr>
<td>Application Route</td>
<td>Ingestion</td>
</tr>
<tr>
<td>Exposure time</td>
<td>90 Days</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Deltamethrin (ISO):</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Species</td>
<td>Rat, male and female</td>
</tr>
<tr>
<td>NOAEL</td>
<td>1 mg/kg</td>
</tr>
<tr>
<td>LOAEL</td>
<td>2.5 mg/kg</td>
</tr>
<tr>
<td>Application Route</td>
<td>Oral</td>
</tr>
<tr>
<td>Exposure time</td>
<td>13 Weeks</td>
</tr>
<tr>
<td>Target Organs</td>
<td>Nervous system</td>
</tr>
<tr>
<td>Symptoms</td>
<td>hyperexcitability</td>
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<tr>
<td>Species</td>
<td>Rat</td>
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<tr>
<td>LOAEL</td>
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</tr>
<tr>
<td>Application Route</td>
<td>inhalation (dust/mist/fume)</td>
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<tr>
<td>Test atmosphere</td>
<td>dust/mist</td>
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<tr>
<td>Exposure time</td>
<td>2 wk / 5 d/wk / 6 h/d</td>
</tr>
<tr>
<td>Symptoms</td>
<td>Local irritation, respiratory tract irritation</td>
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<tr>
<td>Species</td>
<td>Dog</td>
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<tr>
<td>NOAEL</td>
<td>0.1 mg/kg</td>
</tr>
<tr>
<td>LOAEL</td>
<td>1 mg/kg</td>
</tr>
<tr>
<td>Application Route</td>
<td>Oral</td>
</tr>
<tr>
<td>Exposure time</td>
<td>13 Weeks</td>
</tr>
<tr>
<td>Target Organs</td>
<td>Nervous system</td>
</tr>
<tr>
<td>Symptoms</td>
<td>Dilatation of the pupil, Vomiting, Tremors, Diarrhea, Salivation</td>
</tr>
<tr>
<td>Species</td>
<td>Rat</td>
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<tr>
<td>NOAEL</td>
<td>14 mg/kg</td>
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<tr>
<td>LOAEL</td>
<td>54 mg/kg</td>
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<tr>
<td>Application Route</td>
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<tr>
<td>Exposure time</td>
<td>91 d</td>
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<tr>
<td>Target Organs</td>
<td>Nervous system</td>
</tr>
<tr>
<td>Species</td>
<td>Mouse</td>
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<tr>
<td>LOAEL</td>
<td>6 mg/kg</td>
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<tr>
<td>Application Route</td>
<td>Oral</td>
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<tr>
<td>Exposure time</td>
<td>12 Weeks</td>
</tr>
<tr>
<td>Target Organs</td>
<td>Immune system</td>
</tr>
<tr>
<td>Symptoms</td>
<td>immune system effects</td>
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<table>
<thead>
<tr>
<th>2,6-Di-tert-butyl-p-cresol:</th>
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<tbody>
<tr>
<td>Species</td>
<td>Rat</td>
</tr>
<tr>
<td>NOAEL</td>
<td>25 mg/kg</td>
</tr>
</tbody>
</table>
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 (vapor)
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
## Ecotoxicity

### Components:

#### Ethylbenzene:

**Toxicity to fish**
- LC50 (Onchorhynchus 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 daphnia and other aquatic invertebrates (Chronic toxicity)**
- NOEC (Ceriodaphnia dubia (water flea)): 0.96 mg/l
- Exposure time: 7 d

**Toxicity to microorganisms**
- EC50 (Nitrosomonas sp.): 96 mg/l
- Exposure time: 24 h

#### Xylene:

**Toxicity to fish**
- LC50 (Onchorhynchus 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 fish (Chronic toxicity)**
- NOEC (Danio rerio (zebra fish)): > 0.1 - < 1 mg/l
- Exposure time: 35 d
- Method: OECD Test Guideline 210
- Remarks: Based on data from similar materials

**Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)**
- EL10 (Daphnia magna (Water flea)): > 1 - 10 mg/l
- Exposure time: 21 d
- Method: OECD Test Guideline 211
- Remarks: Based on data from similar materials

**Toxicity to microorganisms**
- NOEC: > 100 mg/l
- Exposure time: 3 h
- Method: OECD Test Guideline 209
- 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

- Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): 0.00039 mg/l
  Exposure time: 96 h

- Toxicity to daphnia and other aquatic invertebrates: EC50 (Mysidopsis bahia (opossum shrimp)): 0.0037 µg/l
  Exposure time: 48 h

- Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 0.0035 mg/l
  Exposure time: 48 h

- Toxicity to daphnia and other aquatic invertebrates: 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):

- Toxicity to fish (Chronic toxicity): NOEC (Pimephales promelas (fathead minnow)): 0.000022 mg/l
  Exposure time: 36 d

- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOEC (Daphnia magna (Water flea)): 0.0041 µg/l
  Exposure time: 21 d

  M-Factor (Chronic aquatic toxicity): 1.000.000

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

- Toxicity to fish: LC50 (Danio rerio (zebra fish)): > 0.57 mg/l
  Exposure time: 96 h


- Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 0.48 mg/l
  Exposure time: 48 h
<table>
<thead>
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<td>Toxicity to algae/aquatic plants: ErC50 (Pseudokirchneriella subcapitata (green algae)): &gt; 0.24 mg/l</td>
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<td>Method: OECD Test Guideline 201</td>
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<tr>
<td>NOEC (Pseudokirchneriella subcapitata (green algae)): 0.24 mg/l</td>
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<tr>
<td>Exposure time: 72 h</td>
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<tr>
<td>Method: OECD Test Guideline 201</td>
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<tr>
<td>M-Factor (Acute aquatic toxicity): 1</td>
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<tr>
<td>Toxicity to fish (Chronic toxicity): NOEC (Oryzias latipes (Japanese medaka)): 0.053 mg/l</td>
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<td>Exposure time: 30 d</td>
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<tr>
<td>Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOEC (Daphnia magna (Water flea)): 0.316 mg/l</td>
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<td>Exposure time: 21 d</td>
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<tr>
<td>M-Factor (Chronic aquatic toxicity): 1</td>
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<tr>
<td>Toxicity to microorganisms: EC50: &gt; 10,000 mg/l</td>
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<tr>
<td>Exposure time: 3 h</td>
</tr>
<tr>
<td>Method: OECD Test Guideline 209</td>
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<tr>
<td>Solvent naphtha (petroleum), light aromatic:</td>
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<tr>
<td>Toxicity to fish: LC50 (Pimephales promelas (fathead minnow)): 8.2 mg/l</td>
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<tr>
<td>Exposure time: 96 h</td>
</tr>
<tr>
<td>Test substance: Water Accommodated Fraction</td>
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<tr>
<td>Toxicity to daphnia and other aquatic invertebrates: EL50 (Daphnia magna (Water flea)): 4.5 mg/l</td>
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<tr>
<td>Exposure time: 48 h</td>
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<td>Test substance: Water Accommodated Fraction</td>
</tr>
<tr>
<td>Method: OECD Test Guideline 202</td>
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<tr>
<td>Toxicity to algae/aquatic plants: EL50 (Pseudokirchneriella subcapitata (microalgae)): 3.1 mg/l</td>
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<tr>
<td>Exposure time: 96 h</td>
</tr>
<tr>
<td>Test substance: Water Accommodated Fraction</td>
</tr>
<tr>
<td>Method: OECD Test Guideline 201</td>
</tr>
<tr>
<td>NOELR (Pseudokirchneriella subcapitata (microalgae)): 0.5 mg/l</td>
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<td>Exposure time: 96 h</td>
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<tr>
<td>Test substance: Water Accommodated Fraction</td>
</tr>
<tr>
<td>Method: OECD Test Guideline 201</td>
</tr>
<tr>
<td>Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOELR (Daphnia magna (Water flea)): 2.6 mg/l</td>
</tr>
<tr>
<td>Exposure time: 21 d</td>
</tr>
<tr>
<td>Test substance: Water Accommodated Fraction</td>
</tr>
<tr>
<td>Method: OECD Test Guideline 211</td>
</tr>
<tr>
<td>Methanol:</td>
</tr>
</tbody>
</table>
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 fish (Chronic toxicity): 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:
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
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

Mobility in soil

Components:

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

Other adverse effects
No data available

SECTION 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.

**SECTION 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.

**Domestic regulation**

**ANTT**
- **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)
Hazard Identification Number : 36

**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.

**SECTION 15. REGULATORY INFORMATION**

**Safety, health and environmental regulations/legislation specific for the substance or mixture**
National List of Carcinogenic Agents for Humans - (LINACH)

Group 2B: Possibly carcinogenic to humans
Ethylbenzene : 100-41-4
Group 2B: Possibly carcinogenic to humans
Solvent naphtha (petroleum), light aromatic : 64742-95-6

Brazil. Ordinance No. 1274 on the control and monitoring of chemicals.

**International Regulations**

The ingredients of this product are reported in the following inventories:
- **AICS**: not determined
- **DSL**: not determined
- **IECSC**: not determined

**SECTION 16. OTHER INFORMATION**

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

**Full text of other abbreviations**
- **ACGIH**: USA. ACGIH Threshold Limit Values (TLV)
- **ACGIH BEI**: ACGIH - Biological Exposure Indices (BEI)
- **BR BEI**: Brazil. NR7. Parameters for Biological Control of Occupational Exposure to Some Chemical Agents
- **BR OEL**: Brazil. NR 15 - Unhealthy activities and operations
- **ACGIH / TWA**: 8-hour, time-weighted average
- **ACGIH / STEL**: Short-term exposure limit
- **BR OEL / LT**: Up to 48 hours /week
SAFETY DATA SHEET

Deltamethrin (with Xylene) Formulation

Version 4.1  Revision Date: 09/13/2019  SDS Number: 2972479-00005  Date of last issue: 24.04.2019  Date of first issue: 02.07.2018

AICS - Australian Inventory of Chemical Substances; 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 Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration 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; 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 Toxicology 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, Evaluation, Authorisation and Restriction of Chemicals; SDAT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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.

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