SAFETY DATA SHEET
according to GB/T 16483 and GB/T 17519

Lambda-Cyhalothrin / Decamethylcyclopentasiloxane Formulation

Version 3.6  Revision Date: 09/13/2019  SDS Number: 1078709-00010  Date of last issue: 2019/04/24
Date of first issue: 2016/11/18

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Lambda-Cyhalothrin / Decamethylcyclopentasiloxane Formulation

Manufacturer or supplier's details
Company: MSD
Address: No. 485 Jing Tai Road
Pu Tuo District - Shanghai - China 200331
Telephone: 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

<table>
<thead>
<tr>
<th>Appearance</th>
<th>liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>gold</td>
</tr>
<tr>
<td>Odour</td>
<td>oily</td>
</tr>
</tbody>
</table>

Harmful in contact with skin or if inhaled. Causes eye irritation. May cause damage to organs. Very toxic to aquatic life with long lasting effects.

GHS Classification

- Acute toxicity (Inhalation): Category 4
- Acute toxicity (Dermal): Category 4
- Serious eye damage/eye irritation: Category 2B
- Specific target organ toxicity - single exposure: Category 2
- Short-term (acute) aquatic hazard: Category 1
- Long-term (chronic) aquatic hazard: Category 1

GHS label elements
SAFETY DATA SHEET  
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Lambda-Cyhalothrin / Decamethylcyclopenta-siloxane Formulation

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Hazard pictograms:  
Signal word: Warning

Hazard statements:  
H312 + H332 Harmful in contact with skin or if inhaled.  
H320 Causes eye irritation.  
H371 May cause damage to organs.  
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements:  
Prevention:  
P260 Do not breathe mist or vapours.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/protective clothing.

Response:  
P302 + P352 + P312 IF ON SKIN: Wash with plenty of water. Call a POISON CENTER/doctor if you feel unwell.  
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 + P311 IF exposed or concerned: Call a POISON CENTER/doctor.  
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:  
P405 Store locked up.

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

Physical and chemical hazards  
Not classified based on available information.

Health hazards  
Harmful if inhaled. Harmful in contact with skin. Causes eye irritation. May cause damage to organs.

Environmental hazards  
Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.
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Other hazards which do not result in classification
None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decamethylcyclopentasiloxane</td>
<td>541-02-6</td>
<td>&gt;= 1 - &lt; 10</td>
</tr>
<tr>
<td>lambda-cyhalothrin (ISO)</td>
<td>91465-08-6</td>
<td>&gt;= 1 - &lt; 2.5</td>
</tr>
</tbody>
</table>

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.
Remove 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 unless directed to do so by medical personnel.
Get medical attention.
Rinse mouth thoroughly with water.
Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed
Harmful in contact with skin or if inhaled.
Causes eye irritation.
May cause damage to organs.

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.

5. FIREFIGHTING MEASURES

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

Unsuitable extinguishing
None known.
Lambda-Cyhalothrin / Decamethylcyclopentasiloxane Formulation

Specific hazards during fire-fighting:
- 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)
- Chlorine compounds
- Fluorine compounds
- Silicon oxides
- Formaldehyde

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:
- Use personal protective equipment.
- Follow safe handling advice and personal protective equipment recommendations.

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:
- Soak up with inert absorbent material.
- For large spills, provide diking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container.
- Clean up remaining materials from spill with suitable absorbent.
- Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
- Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

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.
Advice on safe handling : Do not get on skin or clothing.
Do not breathe vapours or spray mist.
Do not swallow.
Do not get in eyes.
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
Keep container tightly closed.
Take care to prevent spills, waste and minimize release to the environment.
Avoidance of contact : Oxidizing agents

Storage

Conditions for safe storage : Keep in properly labelled containers.
Store locked up.
Keep tightly closed.
Keep in a cool, well-ventilated place.
Store in accordance with the particular national regulations.
Materials to avoid : Do not store with the following product types:
Strong oxidizing agents

Packaging material : Unsuitable material: None known.

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>lambda-cyhalothrin (ISO)</td>
<td>91465-08-6</td>
<td>TWA</td>
<td>5 µg/m³ (OEB 4)</td>
<td>Internal</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wipe limit</td>
<td>50 µg/100 cm²</td>
<td>Internal</td>
</tr>
</tbody>
</table>

Occupational exposure limits of decomposition products

<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>Formaldehyde</td>
<td>50-00-0</td>
<td>MAC</td>
<td>0.5 mg/m³</td>
<td>GBZ 2.1-2007</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>0.1 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>0.3 ppm</td>
<td>ACGIH</td>
</tr>
</tbody>
</table>

Engineering measures : All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment. Essentially no open handling permitted. Use closed processing systems or containment technologies.
### 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, inorganic gas/vapour 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.

**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.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>gold</td>
</tr>
<tr>
<td>Odour</td>
<td>oily</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No data available</td>
</tr>
</tbody>
</table>
Initial boiling point and boiling range: No data available
Flash point: > 93.3 °C
   Method: Tag closed cup
Evaporation rate: No data available
Flammability (solid, gas): Not applicable
Flammability (liquids): No data available
Upper explosion limit / Upper flammability limit: No data available
Lower explosion limit / Lower flammability limit: No data available
Vapour pressure: No data available
Relative vapour density: No data available
Relative density: No data available
Density: 0.924 - 0.974 g/cm³ (20 °C)
Solubility(ies)
   Water solubility: insoluble
Partition coefficient: n-octanol/water: No data available
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Viscosity
   Viscosity, kinematic: 61.69 - 73.9 mm²/s
Explosive properties: Not explosive
Oxidizing properties: The substance or mixture is not classified as oxidizing.
Molecular weight: Not applicable
Particle size: Not applicable

10. STABILITY AND REACTIVITY

Reactivity: Not classified as a reactivity hazard.
Chemical stability: Stable under normal conditions.
Lambda-Cyhalothrin / Decamethylcyclopentasiloxane Formulation

Possibility of hazardous reactions: Vapours may form explosive mixture with air. Can react with strong oxidizing agents. Hazardous decomposition products will be formed at elevated temperatures.

Conditions to avoid: None known.

Incompatible materials: Oxidizing agents

Hazardous decomposition products:
Thermal decomposition: Formaldehyde

11. TOXICOLOGICAL INFORMATION

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

Acute toxicity:
Harmful in contact with skin or if inhaled.

**Product:**

**Acute oral toxicity:** LD50 (Rat): > 9,500 mg/kg

**Acute inhalation toxicity:**
- LC50 (Rat): > 4.1 mg/l
- Remarks: No mortality observed at this dose.

**Acute dermal toxicity:** LD50 (Rabbit): > 1,900 mg/kg

**Components:**

Decamethylcyclopentasiloxane:

**Acute oral toxicity:** LD50 (Rat): > 5,000 mg/kg

**Acute inhalation toxicity:**
- LC50 (Rat): 8.67 mg/l
- Exposure time: 4 h
- Test atmosphere: dust/mist
- Method: OECD Test Guideline 403

**Acute dermal toxicity:**
- LD50 (Rabbit): > 2,000 mg/kg
- Assessment: The substance or mixture has no acute dermal toxicity

**lambda-cyhalothrin (ISO):**

**Acute oral toxicity:**
- LD50 (Rat): 56 - 79 mg/kg
- LD50 (Mouse): 20 mg/kg

**Acute inhalation toxicity:**
- LC50 (Rat): 0.06 mg/l
- Exposure time: 4 h
- Test atmosphere: dust/mist
Lambda-Cyhalothrin / Decamethylcyclopentsiloxane Formulation

Acute dermal toxicity: LD50 (Rat): 632 - 696 mg/kg
Acute toxicity (other routes of administration): LD50 (Rat): 250 - 750 mg/kg
Application Route: Intraperitoneal

Skin corrosion/irritation
Not classified based on available information.

Product:
Species: Rabbit
Result: Mild skin irritation

Components:
Decamethylcyclopentsiloxane:
Species: Rabbit
Result: No skin irritation

lambda-cyhalothrin (ISO):
Species: Rabbit
Result: No skin irritation

Serious eye damage/eye irritation
Causes eye irritation.

Product:
Species: Rabbit
Result: Mild eye irritation

Components:
Decamethylcyclopentsiloxane:
Species: Rabbit
Result: No eye irritation

lambda-cyhalothrin (ISO):
Species: Rabbit
Result: Mild eye irritation

Respiratory or skin sensitisation
Skin sensitisation
Not classified based on available information.
Respiratory sensitisation
Not classified based on available information.
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Product:
Species: Guinea pig
Result: Not a skin sensitizer.

Components:
Decamethylcyclopentasiloxane:
Test Type: Local lymph node assay (LLNA)
Exposure routes: Skin contact
Species: Mouse
Result: negative

lambda-cyhalothrin (ISO):
Test Type: Magnusson-Kligman-Test
Exposure routes: Dermal
Species: Guinea pig
Result: Not a skin sensitizer.

Germ cell mutagenicity
Not classified based on available information.

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

Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
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: Rat
Application Route: inhalation (vapour)
Method: OECD Test Guideline 474
Result: negative

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

lambda-cyhalothrin (ISO):
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**Lambda-Cyhalothrin / Decamethylcyclopentasiloxane Formulation**

<table>
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<tr>
<th>Version</th>
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<tr>
<td>3.6</td>
<td>09/13/2019</td>
<td>1078709-00010</td>
<td>2019/04/24</td>
<td>2016/11/18</td>
</tr>
</tbody>
</table>

### Genotoxicity in vitro
- **Test Type**: Bacterial reverse mutation assay (AMES)
  - Result: negative
- **Test Type**: Chromosomal aberration
  - Test system: Human lymphocytes
  - Result: negative
- **Test Type**: unscheduled DNA synthesis assay
  - Test system: rat hepatocytes
  - Result: negative
- **Test Type**: In vitro mammalian cell gene mutation test
  - Test system: mouse lymphoma cells
  - Result: negative

### Genotoxicity in vivo
- **Test Type**: Micronucleus test
  - Species: Mouse
  - Cell type: Bone marrow
  - Application Route: Intraperitoneal
  - Result: negative

### Carcinogenicity
Not classified based on available information.

#### Components:

**Lambda-cyhalothrin (ISO):**
- **Species**: Mouse
- **Application Route**: oral (feed)
- **Exposure time**: 2 Years
- **Result**: negative
- **Remarks**: Based on data from similar materials

**Species**: Rat
- **Application Route**: oral (feed)
- **Exposure time**: 2 Years
- **Result**: negative
- **Remarks**: Based on data from similar materials

### Reproductive toxicity
Not classified based on available information.

#### Components:

**Decamethylcyclopentasiloxane:**
- **Effects on fertility**: Test Type: Two-generation reproduction toxicity study
  - Species: Rat
  - Application Route: Inhalation (vapour)
  - Method: OPPTS 870.3800
  - Result: negative

**Effects on foetal development**: Test Type: Two-generation reproduction toxicity study
Lambda-Cyhalothrin / Decamethylcyclopentsiloxane Formulation

1.2 Application Route: inhalation (vapour)

1.7 Method: OPPTS 870.3800

1.8 Result: negative

lambda-cyhalothrin (ISO):

Effects on fertility

Test Type: Three-generation study
Species: Rat
Application Route: oral (feed)
General Toxicity - Parent: NOAEL: 2 mg/kg body weight
General Toxicity F1: LOAEL: 6.7 mg/kg body weight
Symptoms: Reduced offspring weight gain
Result: No effects on fertility
Remarks: Based on data from similar materials

Effects on foetal development

Test Type: Development
Species: Rat
Application Route: Oral
General Toxicity Maternal: NOAEL: 10 mg/kg body weight
Developmental Toxicity: LOAEL: 15 mg/kg body weight
Result: No effects on foetal development, Reduced maternal body weight gain, Reduced foetal weight
Remarks: Based on data from similar materials

Test Type: Development
Species: Rabbit
Application Route: Oral
General Toxicity Maternal: NOAEL: 10 mg/kg body weight
Developmental Toxicity: NOAEL: 30 mg/kg body weight
Result: No effects on foetal development, Reduced maternal body weight gain, Reduced foetal weight
Remarks: Based on data from similar materials

STOT - single exposure
May cause damage to organs.

Components:

lambda-cyhalothrin (ISO):

Target Organs: Nervous system
Assessment: Causes damage to organs.

STOT - repeated exposure
Not classified based on available information.

Repeated dose toxicity

Components:

Decamethylcyclopentsiloxane:

Species: Rat
NOAEL: 1,000 mg/kg
## Lambda-Cyhalothrin / Decamethylcyclopentasiloxane Formulation

### LOAEL
- Application Route: Ingestion
- Method: OECD Test Guideline 408

### lambda-cyhalothrin (ISO):

#### Species: Dog
- NOAEL: 2.5 mg/kg
- LOAEL: 12.5 mg/kg
- Application Route: Oral (feed)
- Exposure time: 90 d
- Symptoms: Reduced body weight gain, reduced food consumption

#### Species: Rat
- NOAEL: 10 mg/kg
- LOAEL: 50 mg/kg
- Application Route: Dermal
- Exposure time: 21 d
- Target Organs: Nervous system

#### Species: Rat
- NOAEL: 0.08 mg/kg
- LOAEL: 0.9 mg/kg
- Application Route: Inhalation
- Exposure time: 21 d
- Target Organs: Nervous system

#### Species: Dog
- NOAEL: 0.1 mg/kg
- LOAEL: 0.5 mg/kg
- Application Route: Oral
- Exposure time: 1 yr
- Target Organs: Nervous system
- Symptoms: Gastrointestinal disturbance, Vomiting, Convulsions, ataxia, Liver effects

### Aspiration toxicity
Not classified based on available information.

### Experience with human exposure

#### Product:
- Skin contact: Symptoms: May cause, Local irritation
- Eye contact: Symptoms: Irritating

#### Components:

##### lambda-cyhalothrin (ISO):
- Inhalation: Symptoms: Cough, Local irritation, sneezing
- Skin contact: Symptoms: Skin irritation, tingling, superficial burning sensation, Local irritation
  - Remarks: Can be absorbed through skin.
- Eye contact: Symptoms: Eye irritation
Lambda-Cyhalothrin / Decamethylcyclopentasiloxane Formulation

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Decamethylcyclopentasiloxane:

- **Toxicity to fish**: LC50 (Oncorhynchus mykiss (rainbow trout)): > 16 µg/l
  - Exposure time: 96 h
  - Remarks: No toxicity at the limit of solubility

- **Toxicity to daphnia and other aquatic invertebrates**: EC50 (Daphnia magna (Water flea)): > 2.9 µg/l
  - Exposure time: 48 h
  - Method: OECD Test Guideline 202
  - Remarks: No toxicity at the limit of solubility

- **Toxicity to algae/aquatic plants**: ErC50 (Pseudokirchneriella subcapitata (green algae)): > 12 µg/l
  - Exposure time: 96 h
  - Method: OECD Test Guideline 201
  - Remarks: No toxicity at the limit of solubility
  - EC10 (Pseudokirchneriella subcapitata (green algae)): > 12 µg/l
  - Exposure time: 96 h
  - Method: OECD Test Guideline 201
  - Remarks: No toxicity at the limit of solubility

- **Toxicity to fish (Chronic toxicity)**: NOEC (Oncorhynchus mykiss (rainbow trout)): 14 µg/l
  - Exposure time: 90 d
  - Method: OECD Test Guideline 210
  - Remarks: No toxicity at the limit of solubility

- **Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)**: NOEC (Daphnia magna (Water flea)): 15 µg/l
  - Exposure time: 21 d
  - Method: OECD Test Guideline 211
  - Remarks: No toxicity at the limit of solubility

- **Toxicity to microorganisms**: EC50: > 2,000 mg/l
  - Exposure time: 3 h
  - Method: 88/302/EC

**lambda-cyhalothrin (ISO):**

- **Toxicity to fish**: LC50 (Oncorhynchus mykiss (rainbow trout)): 0.00019 mg/l
  - Exposure time: 96 h
  - Method: OECD Test Guideline 203
  - Remarks: Based on data from similar materials
  - LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.00021 mg/l
  - Exposure time: 96 h
Lambda-Cyhalothrin / Decamethylcyclopentasiloxane Formulation

**Persistence and degradability**

**Components:**

Decamethylcyclopentasiloxane:

Biodegradability:

Result: Not readily biodegradable.

Biodegradation: 0.14 %

Exposure time: 28 d

Method: OECD Test Guideline 310

Bioaccumulative potential

**Components:**

Decamethylcyclopentasiloxane:

Bioaccumulation:

Species: Pimephales promelas (fathead minnow)

Bioconcentration factor (BCF): 7,060 - 13,300

Method: OECD Test Guideline 305

Partition coefficient: n-octanol/water

\[ \text{log Pow: 8.023} \]

**lambda-cyhalothrin (ISO):**

Bioaccumulation:

Bioconcentration factor (BCF): 2.240

Method: OECD Test Guideline 305

Partition coefficient: n-octanol/water

\[ \text{log Pow: 7.0 (20 °C)} \]
Mobility in soil

Components:

lambda-cyhalothrin (ISO):
Distribution among environmental compartments: log Koc: 5.5

Other adverse effects

Product:
Results of PBT and vPvB assessment: This substance/mixture contains components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB).

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.
If not otherwise specified: Dispose of as unused product.

14. TRANSPORT INFORMATION

International Regulations

UNRTDG
UN number: UN 3082
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (lambda-cyhalothrin (ISO))
Class: 9
Packing group: III
Labels: 9

IATA-DGR
UN/ID No.: UN 3082
Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (lambda-cyhalothrin (ISO))
Class: 9
Packing group: III
Labels: Miscellaneous
Packing instruction (cargo aircraft): 964
Packing instruction (passenger aircraft): 964
Environmentally hazardous: yes

IMDG-Code
UN number: UN 3082
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Lambda-Cyhalothrin / Decamethylcyclopenta-siloxane Formulation

Class : 9
Packing group : III
Labels : 9
EmS Code : F-A, S-F
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 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(lambda-cyhalothrin (ISO))

Class : 9
Packing group : III
Labels : 9

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

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

16. OTHER INFORMATION

Further information
Date format : yyyy/mm/dd

Full text of other abbreviations
ACGIH : USA. ACGIH Threshold Limit Values (TLV)
Lambda-Cyhalothrin / Decamethylcyclopenta-siloxane Formulation


ACGIH / TWA: 8-hour, time-weighted average
ACGIH / STEL: Short-term exposure limit
GBZ 2.1-2007 / MAC: Maximum allowable concentration

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; SADT - 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

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.

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