1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Lambda-Cyhalothrin Liquid Formulation

Manufacturer or supplier’s details
Company: MSD
Address: Briahnager - Off Pune Nagar Road
Wagholi - Pune - India 412 207
Telephone: +1-908-740-4000
Emergency telephone number: +1-908-423-6000
E-mail address: EHSDATASTEWARD@msd.com

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

2. HAZARDS IDENTIFICATION

Manufacture, Storage and Import of Hazardous Chemicals Rules 1989

Classification
Not classified as hazardous according to criteria laid down in Part I of Schedule-1.

GHS Classification
Acute toxicity (Inhalation): Category 4
Acute toxicity (Dermal): Category 5
Skin corrosion/irritation: Category 2
Serious eye damage/eye irritation: Category 2B
Specific target organ toxicity - single exposure: Category 2 (Nervous system)
Specific target organ toxicity - single exposure: Category 3
Aspiration hazard: Category 1
Short-term (acute) aquatic hazard: Category 1
Long-term (chronic) aquatic hazard: Category 1
GHS label elements
Hazard pictograms : 

Signal word : Danger

Hazard statements : H304 May be fatal if swallowed and enters airways.
H313 May be harmful in contact with skin.
H315 + H320 Causes skin and eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H371 May cause damage to organs (Nervous system).
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.

Response:
P301 + P316 IF SWALLOWED: Get emergency medical help immediately.
P302 + P352 + P317 IF ON SKIN: Wash with plenty of water. Get medical help.
P304 + P340 + P317 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical help.
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 + P316 IF exposed or concerned: Get emergency medical help immediately.
P331 Do NOT induce vomiting.
P332 + P317 If skin irritation occurs: Get medical help.
P337 + P317 If eye irritation persists: Get medical help.
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.

Other hazards which do not result in classification
None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS
SAFETY DATA SHEET

Lambda-Cyhalothrin Liquid 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>
</tr>
</thead>
<tbody>
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<td>1135012-00012</td>
<td>10.10.2020</td>
<td>02.12.2016</td>
</tr>
</tbody>
</table>

Substance / Mixture: Mixture

### Components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2,4-Trimethylbenzene</td>
<td>95-63-6</td>
<td>&gt;= 90 - &lt;= 100</td>
</tr>
<tr>
<td>lambda-cyhalothrin (ISO)</td>
<td>91465-08-6</td>
<td>&gt;= 5 - &lt; 10</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 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**: May be fatal if swallowed and enters airways.
May be harmful in contact with skin.
Causes skin and eye irritation.
Harmful if inhaled.
May cause respiratory 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 media**: None known.

**Specific hazards during firefighting**: Exposure to combustion products may be a hazard to health.
6. ACCIDENTAL RELEASE MEASURES

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

7. HANDLING AND STORAGE

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 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 as-
sessment
Keep container tightly closed.
Already sensitised individuals should consult their physician regarding working with respiratory irritants or sensitisers.
Do not eat, drink or smoke when using this product.
Take care to prevent spills, waste and minimize release to the environment.

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

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>1,2,4-Trimethylbenzene</td>
<td>95-63-6</td>
<td>TWA</td>
<td>25 ppm</td>
<td>ACGIH</td>
</tr>
<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>
</tbody>
</table>

Further information: Skin
Wipe limit 50 µg/100 cm² Internal

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.
If handled in a laboratory, use a properly designed biosafety cabinet, fume hood, or other containment device if the potential exists for aerosolization.
If this potential does not exist, handle over lined trays or benchtops.

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
Hand protection :
Material : Chemical-resistant gloves

Remarks :
Consider double gloving.
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 face shield 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.

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>
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<tr>
<td>Colour</td>
<td>off-white</td>
</tr>
<tr>
<td>Odour</td>
<td>solvent-like</td>
</tr>
<tr>
<td>Odour Threshold</td>
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</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
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<tr>
<td>Initial boiling point and boiling range</td>
<td>&gt; 100 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 100 °C</td>
</tr>
<tr>
<td>Evaporation rate</td>
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<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
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<tr>
<td>Flammability (liquids)</td>
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<td>Upper explosion limit / Upper flammability limit</td>
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<tr>
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<tr>
<td>Vapour pressure</td>
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</tr>
<tr>
<td>Relative vapour density</td>
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</tr>
<tr>
<td>Relative density</td>
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</tr>
<tr>
<td>Density</td>
<td>1.036 g/cm³</td>
</tr>
</tbody>
</table>
10. STABILITY AND REACTIVITY

Reactivity: Not classified as a reactivity hazard.
Chemical stability: Stable under normal conditions.
Possibility of hazardous reactions: Can react with strong oxidizing agents.
Conditions to avoid: None known.
Incompatible materials: Oxidizing agents
Hazardous decomposition products: No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure: Inhalation, Skin contact, Ingestion, Eye contact

Acute toxicity
May be harmful in contact with skin.
Harmful if inhaled.

Product:
Acute oral toxicity: LD50(Rat): > 5,000 mg/kg
Acute inhalation toxicity: LC50(Rat): > 4.62 mg/l
                                        Exposure time: 4 h
Acute dermal toxicity: LD50(Rat): > 2,000 mg/kg

Components:
1,2,4-Trimethylbenzene:
Lambda-Cyhalothrin Liquid Formulation

Acute oral toxicity: LD50 (Rat): 3,280 mg/kg

Acute inhalation toxicity: LC50 (Rat): > 10.2 mg/l
- Exposure time: 4 h
- Test atmosphere: vapour
- Remarks: Based on data from similar materials

Acute dermal toxicity: LD50 (Rat): > 3,160 mg/kg

**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

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**
Causes skin irritation.

**Product:**
Species: Rabbit
Result: irritating

**Components:**

**1,2,4-Trimethylbenzene:**
Species: Rabbit
Result: Skin irritation
Remarks: Based on data from similar materials

**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:**

**1,2,4-Trimethylbenzene:**
Species: Rabbit
Result: No eye irritation
Remarks: Based on data from similar materials

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.

Product:
Species: Rabbit
Result: Weak sensitizer

Components:
1,2,4-Trimethylbenzene:
Test Type: Maximisation Test
Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
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:
1,2,4-Trimethylbenzene:
Genotoxicity in vitro:
Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative
Remarks: Based on data from similar materials

Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative
Remarks: Based on data from similar materials

Test Type: Mutagenicity (in vitro mammalian cytogenetic test)
Result: negative
Remarks: Based on data from similar materials
Genotoxicity in vivo: Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vitro:

**lambda-cyhalothrin (ISO):**

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:

1,2,4-Trimethylbenzene:

Effects on fertility : Test Type: Three-generation reproduction toxicity study
Species: Rat
Application Route: inhalation (vapour)
Result: negative
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: inhalation (vapour)
Method: OECD Test Guideline 414
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 respiratory irritation.
May cause damage to organs (Nervous system).

Components:

1,2,4-Trimethylbenzene:
Assessment : May cause respiratory irritation.
## 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:

**1,2,4-Trimethylbenzene:**

| Species | Rat |
| NOAEL | 600 mg/kg |
| Application Route | Ingestion |
| Exposure time | 90 Days |

Method: OECD Test Guideline 408  
Remarks: Based on data from similar materials

| Species | Rat |
| NOAEL | 1230 mg/m3 |
| Application Route | Inhalation (vapour) |
| Exposure time | 90 Days |

**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
May be fatal if swallowed and enters airways.

Product:
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.

Components:
1,2,4-Trimethylbenzene:
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

Product:
Inhalation: Symptoms: Respiratory disorder, Central nervous system depression
Skin contact: Symptoms: tingling, Itching, Burn, Skin irritation
Eye contact: Symptoms: Eye irritation
Ingestion: Symptoms: Gastrointestinal disturbance, Breathing difficulties

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
Ingestion: Symptoms: Gastrointestinal disturbance

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:
1,2,4-Trimethylbenzene:
Toxicity to fish: LC50 (Pimephales promelas (fathead minnow)): 7.72 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 3.6 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants: EC50 (Desmodesmus subspicatus (green algae)): 2.356 mg/l
Exposure time: 96 h

Ecotoxicology Assessment
Chronic aquatic toxicity: Toxic to aquatic life with long lasting effects.
**SAFETY DATA SHEET**

**Lambda-Cyhalothrin Liquid Formulation**

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</tr>
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</table>

**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
  - Method: OECD Test Guideline 203
  - Remarks: Based on data from similar materials

**Toxicity to daphnia and other aquatic invertebrates**
- EC50 (Daphnia magna (Water flea)): 0.00004 mg/l
  - Exposure time: 48 h
  - Method: OECD Test Guideline 202
  - Remarks: Based on data from similar materials

**M-Factor (Acute aquatic toxicity):**
- 10,000

**Toxicity to fish (Chronic toxicity):**
- NOEC: 0.000062 mg/l
  - Exposure time: 32 d
  - Species: Pimephales promelas (fathead minnow)
  - Method: OECD Test Guideline 210
  - Remarks: Based on data from similar materials

**Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):**
- NOEC: 0.0035 µg/l
  - Exposure time: 21 d
  - Species: Daphnia magna (Water flea)
  - Method: OECD Test Guideline 211
  - Remarks: Based on data from similar materials

**M-Factor (Chronic aquatic toxicity):**
- 10,000

**Persistence and degradability**

**Components:**

**1,2,4-Trimethylbenzene:**
- Biodegradability: Result: Readily biodegradable.
  - Biodegradation: 60 %
  - Exposure time: 28 d

**Bioaccumulative potential**

**Components:**

**lambda-cyhalothrin (ISO):**
- Bioaccumulation: Bioconcentration factor (BCF): 2,240
  - Method: OECD Test Guideline 305

- Partition coefficient: n-octanol/water
  - log Pow: 7.0 (20 °C)
Mobility in soil

Components:

**lambda-cyhalothrin (ISO):**
Distribution among environmental compartments: \( \log K_{oc} : 5.5 \)

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.
- 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
- Environmentally hazardous: yes

**IMDG-Code**
- UN number: UN 3082
- Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (lambda-cyhalothrin (ISO))
- Class: 9
- Packing group: III
- Labels: 9
- EmS Code: F-A, S-F
- Marine pollutant: yes
15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

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

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

16. OTHER INFORMATION

Further information


Date format: dd.mm.yyyy

Full text of other abbreviations

ACGIH / TWA: 8-hour, time-weighted average

AICL - 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 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; KECL - 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
SAFETY DATA SHEET

Lambda-Cyhalothrin Liquid Formulation

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; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; 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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