

**Lambda-Cyhalothrin Liquid Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 01.10.2022
4.9	30.09.2023	1133941-00016	Date of first issue: 02.12.2016

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**1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : Lambda-Cyhalothrin Liquid Formulation

**Manufacturer or supplier's details**

Company : MSD

Address : 50 Tuas West Drive  
Singapore - Singapore 638408

Telephone : +1-908-740-4000

Emergency telephone number : 65 6697 2111 (24/7/365)

E-mail address : EHSDATASTEWARD@msd.com

**Recommended use of the chemical and restrictions on use**

Recommended use : Veterinary product

Restrictions on use : Not applicable

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**2. HAZARDS IDENTIFICATION****GHS Classification**

Acute toxicity (Inhalation) : Category 4

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**

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- Hazard pictograms : 
- Signal word : Danger
- Hazard statements : H304 May be fatal if swallowed and enters airways.  
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 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.  
P302 + P352 IF ON SKIN: Wash with plenty of water.  
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.  
P331 Do NOT induce vomiting.  
P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P362 + P364 Take off contaminated clothing and wash it before reuse.  
P391 Collect spillage.
- Storage:**  
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.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

#### Components

Chemical name	CAS-No.	Concentration (% w/w)
1,2,4-Trimethylbenzene	95-63-6	>= 90 -<= 100
lambda-cyhalothrin (ISO)	91465-08-6	>= 2.5 -< 10

### 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.  
 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 (CO<sub>2</sub>)  
 Dry chemical

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Unsuitable extinguishing media	:	None known.
Specific hazards during fire-fighting	:	Exposure to combustion products may be a hazard to health.
Hazardous combustion products	:	Carbon oxides Nitrogen oxides (NO <sub>x</sub> ) Chlorine compounds Fluorine compounds
Specific extinguishing methods	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

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### 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.

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### 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.

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- Do not breathe mist or vapours.  
 Do not swallow.  
 Do not get in eyes.  
 Wash skin thoroughly after handling.  
 Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment  
 Keep container tightly closed.  
 Already sensitised individuals, and those susceptible to asthma, allergies, chronic or recurrent respiratory disease, 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

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
1,2,4-Trimethylbenzene	95-63-6	PEL (long term)	25 ppm 123 mg/m <sup>3</sup>	SG OEL
		TWA	10 ppm	ACGIH
lambda-cyhalothrin (ISO)	91465-08-6	TWA	5 µg/m <sup>3</sup> (OEB 4)	Internal
	Further information: Skin			
		Wipe limit	50 µg/100 cm <sup>2</sup>	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.

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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 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.
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.

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance	:	liquid
Colour	:	off-white
Odour	:	solvent-like
Odour Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	> 100 °C
Flash point	:	> 100 °C
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable

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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	:	1.036 g/cm <sup>3</sup>
Solubility(ies)	:	
Water solubility	:	dispersible
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity	:	
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Molecular weight	:	Not applicable
Particle size	:	Not applicable

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**10. STABILITY AND REACTIVITY**

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

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**11. TOXICOLOGICAL INFORMATION**

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

**Acute toxicity**

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:**

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      : LD50 (Rat): 250 - 750 mg/kg  
administration)                      Application Route: Intraperitoneal

**Skin corrosion/irritation**

Causes skin irritation.

**Product:**

Species                                    : Rabbit  
Result                                      : irritating

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



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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

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**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

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

**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

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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

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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/m<sup>3</sup>  
 Application Route : inhalation (vapour)  
 Exposure time : 90 Days

##### **lambda-cyhalothrin (ISO):**

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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

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### 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

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## 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.
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#### **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 (Pimephales promelas (fathead minnow)): 0.000062 mg/l Exposure time: 32 d

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Method: OECD Test Guideline 210  
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.0035 µg/l  
Exposure time: 21 d  
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 Koc: 5.5

**Other adverse effects**

No data available

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**13. DISPOSAL CONSIDERATIONS****Disposal methods**

Waste from residues : Do not dispose of waste into sewer.  
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.

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**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  
Environmentally hazardous : yes

**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 (ISO))  
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.

**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**

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



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**Workplace Safety and Health Act and Workplace Safety and Health (General Provisions) Regulations: This product is subjected to the SDS, labelling, PEL and other requirements in the Act/Regulations.**

Environmental Protection and Management Act and : Not applicable  
 Environmental Protection and Management (Hazardous Substances) Regulations

Fire Safety (Petroleum and Flammable Materials) : Not applicable  
 Regulations

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

AICS : not determined  
 DSL : not determined  
 IECSC : not determined

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### 16. OTHER INFORMATION

Revision Date : 30.09.2023

**Further information**

Sources of key data used to : Internal technical data, data from raw material SDSs, OECD  
 compile the Safety Data eChem Portal search results and European Chemicals Agen-  
 Sheet cy, <http://echa.europa.eu/>

Date format : dd.mm.yyyy

**Full text of other abbreviations**

ACGIH : USA. ACGIH Threshold Limit Values (TLV)  
 SG OEL : Singapore. Workplace Safety and Health (General Provisions)  
 Regulations - First Schedule Permissible Exposure Limits of  
 Toxic Substances.

ACGIH / TWA : 8-hour, time-weighted average  
 SG OEL / PEL (long term) : Permissible Exposure Level (PEL) Long Term

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International 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 Or-

## Lambda-Cyhalothrin Liquid Formulation

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ganisation 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; 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.

SG / EN