

# Lambda-Cyhalothrin / Decamethylcyclopentasiloxane Formulation

Version 4.11      Revision Date: 30.09.2023      SDS Number: 1078739-00019      Date of last issue: 04.04.2023  
Date of first issue: 18.11.2016

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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

Trade name : Lambda-Cyhalothrin / Decamethylcyclopentasiloxane Formulation

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture : Veterinary product

Recommended restrictions on use : Not applicable

### 1.3 Details of the supplier of the safety data sheet

Company : MSD  
20 Spartan Road  
1619 Spartan, South Africa

Telephone : +27119239300

E-mail address of person responsible for the SDS : EHSDATASTEWARD@msd.com

### 1.4 Emergency telephone number

+1-908-423-6000

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## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification (REGULATION (EC) No 1272/2008)


Acute toxicity, Category 4	H332: Harmful if inhaled.
Acute toxicity, Category 4	H312: Harmful in contact with skin.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Specific target organ toxicity - single exposure, Category 2	H371: May cause damage to organs.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

### 2.2 Label elements

#### Labelling (REGULATION (EC) No 1272/2008)

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- Hazard pictograms : 
- Signal word : Warning
- Hazard statements : H312 + H332 Harmful in contact with skin or if inhaled.  
H319 Causes serious eye irritation.  
H371 May cause damage to organs.  
H410 Very toxic to aquatic life with long lasting effects.
- Precautionary statements : **Prevention:**  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- Response:**  
P302 + P352 + P312 IF ON SKIN: Wash with plenty of water. Call a POISON CENTER/ doctor if you feel unwell.  
P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P391 Collect spillage.

Hazardous components which must be listed on the label:  
lambda-cyhalothrin (ISO)

## 2.3 Other hazards

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

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
lambda-cyhalothrin (ISO)	91465-08-6 415-130-7 607-252-00-6	Acute Tox. 3; H301 Acute Tox. 2; H330 Acute Tox. 3; H311 Eye Irrit. 2; H319 STOT SE 1; H370 (Nervous system) Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 1 - < 2,5

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		M-Factor (Acute aquatic toxicity): 10.000 M-Factor (Chronic aquatic toxicity): 10.000	
PBT and vPvB substance :			
Decamethylcyclopentasiloxane	541-02-6 208-764-9		>= 1 - < 10

For explanation of abbreviations see section 16.

### SECTION 4: First aid measures

#### 4.1 Description of 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.
- 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).
- 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.

#### 4.2 Most important symptoms and effects, both acute and delayed

- Risks : Harmful in contact with skin or if inhaled.  
Causes serious eye irritation.  
May cause damage to organs.

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### 4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically and supportively.

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media : Water spray  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical

Unsuitable extinguishing media : None known.

### 5.2 Special hazards arising from the substance or mixture

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 (NO<sub>x</sub>)  
Chlorine compounds  
Fluorine compounds  
Silicon oxides  
Formaldehyde

### 5.3 Advice for firefighters

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

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.

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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.  
Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

### 6.2 Environmental precautions

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

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barriers).  
Retain and dispose of contaminated wash water.  
Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

Methods for 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.

### 6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe 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 the 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.  
Do not eat, drink or smoke when using this product.  
Take care to prevent spills, waste and minimize release to the environment.  
Do not breathe decomposition products.

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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## 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : 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.

Advice on common storage : Do not store with the following product types:  
Strong oxidizing agents  
Self-reactive substances and mixtures  
Organic peroxides  
Explosives  
Gases

## 7.3 Specific end use(s)

Specific use(s) : No data available

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
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

#### Occupational exposure limits of decomposition products

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Formaldehyde	50-00-0	OEL- ML	0,2 ppm	ZA OEL
	Further information: Occupational Exposure Limits - Maximum Limits For Hazardous Chemical Agents, dermal sensitisation, potential to produce dermal sensitisation, respiratory sensitisation, potential to produce respiratory sensitisation, denotes carcinogenicity, which is based on GHS categorisation, including category 1A, 1B			
		OEL - ML STEL/C	0,6 ppm	ZA OEL
	Further information: Occupational Exposure Limits - Maximum Limits For Hazardous Chemical Agents, dermal sensitisation, potential to produce dermal sensitisation, respiratory sensitisation, potential to produce respiratory sensitisation, denotes carcinogenicity, which is based on GHS categorisation, including category 1A, 1B			
		TWA	0,3 ppm 0,37 mg/m <sup>3</sup>	2004/37/EC
		STEL	0,6 ppm 0,74 mg/m <sup>3</sup>	2004/37/EC

**Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:**

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Substance name	End Use	Exposure routes	Potential health effects	Value
Decamethylcyclopentasiloxane	Workers	Inhalation	Long-term systemic effects	97,3 mg/m <sup>3</sup>
	Workers	Inhalation	Acute systemic effects	62 mg/m <sup>3</sup>
	Workers	Inhalation	Long-term local effects	24,2 mg/m <sup>3</sup>
	Consumers	Inhalation	Long-term systemic effects	17,3 mg/m <sup>3</sup>
	Consumers	Inhalation	Long-term local effects	4,3 mg/m <sup>3</sup>
	Consumers	Ingestion	Long-term systemic effects	5 mg/kg bw/day

### Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
Decamethylcyclopentasiloxane	Sewage treatment plant	10 mg/l
	Fresh water sediment	11 mg/kg
	Marine sediment	1,1 mg/kg
	Soil	3,77 mg/kg
	Oral (Secondary Poisoning)	13 mg/kg food

## 8.2 Exposure controls

### 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

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.

Hand protection

Material : Chemical-resistant gloves

Remarks : Consider double gloving.

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.

Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the rec-

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Filter type : ommended guidelines, use respiratory protection.  
: Combined particulates, inorganic gas/vapour and organic vapour type (AB-P)

### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

Appearance	:	liquid
Colour	:	gold
Odour	:	oily
Odour Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	> 93,3 °C Method: Tag closed cup
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	0,924 - 0,974 g/cm <sup>3</sup> (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 mm <sup>2</sup> /s
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.



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### 9.2 Other information

Flammability (liquids)	:	No data available
Molecular weight	:	Not applicable
Particle size	:	Not applicable

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Not classified as a reactivity hazard.

### 10.2 Chemical stability

Stable under normal conditions.

### 10.3 Possibility of hazardous reactions

Hazardous reactions	:	Vapours may form explosive mixture with air. Can react with strong oxidizing agents. Hazardous decomposition products will be formed at elevated temperatures.
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### 10.4 Conditions to avoid

Conditions to avoid	:	None known.
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### 10.5 Incompatible materials

Materials to avoid	:	Oxidizing agents
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### 10.6 Hazardous decomposition products

Thermal decomposition	:	Formaldehyde
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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

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

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Acute dermal toxicity : LD50 (Rabbit): > 1.900 mg/kg

**Components:****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

**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

**Skin corrosion/irritation**

Not classified based on available information.

**Product:**

Species : Rabbit  
Result : Mild skin irritation

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

Species : Rabbit  
Result : No skin irritation

**Decamethylcyclopentasiloxane:**

Species : Rabbit  
Result : No skin irritation

**Serious eye damage/eye irritation**

Causes serious eye irritation.

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**Product:**

Species : Rabbit  
Result : Mild eye irritation

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

Species : Rabbit  
Result : Mild eye irritation

**Decamethylcyclopentasiloxane:**

Species : Rabbit  
Result : No eye irritation

**Respiratory or skin sensitisation****Skin sensitisation**

Not classified based on available information.

**Respiratory sensitisation**

Not classified based on available information.

**Product:**

Species : Guinea pig  
Result : Not a skin sensitizer.

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

Test Type : Magnusson-Kligman-Test  
Exposure routes : Dermal  
Species : Guinea pig  
Result : Not a skin sensitizer.

**Decamethylcyclopentasiloxane:**

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

**Germ cell mutagenicity**

Not classified based on available information.

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

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

Test Type: Chromosomal aberration

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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

**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

**Carcinogenicity**

Not classified based on available information.

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

Species : Mouse  
Application Route : oral (feed)  
Exposure time : 2 Years  
Result : negative

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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:

#### 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

#### 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  
 Species: Rat  
 Application Route: inhalation (vapour)  
 Method: OPPTS 870.3800  
 Result: negative

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### 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:

#### 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

#### Decamethylcyclopentasiloxane:

Species	:	Rat
NOAEL	:	1.000 mg/kg
LOAEL	:	> 1.000 mg/kg
Application Route	:	Ingestion

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Method : OECD Test Guideline 408

## 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  
Ingestion : Symptoms: Gastrointestinal disturbance

## SECTION 12: Ecological information

### 12.1 Toxicity

#### Components:

#### 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) : NOEC: 0,0035 µg/l  
Exposure time: 21 d

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ic toxicity)   Species: Daphnia magna (Water flea)  
  Method: OECD Test Guideline 211  
  Remarks: Based on data from similar materials

M-Factor (Chronic aquatic toxicity)                 : 10.000

### **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 microorganisms                         : EC50 : > 2.000 mg/l  
  Exposure time: 3 h  
  Method: 88/302/EC

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

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

## 12.2 Persistence and degradability

### Components:

#### **Decamethylcyclopentasiloxane:**

Biodegradability   : Result: Not readily biodegradable.  
  Biodegradation: 0,14 %  
  Exposure time: 28 d  
  Method: OECD Test Guideline 310



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### 12.3 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)

##### **Decamethylcyclopentasiloxane:**

Bioaccumulation : Species: Pimephales promelas (fathead minnow)  
Bioconcentration factor (BCF): 7.060 - 13.300  
Method: OECD Test Guideline 305

Partition coefficient: n-octanol/water : log Pow: 8,023

### 12.4 Mobility in soil

#### Components:

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

Distribution among environmental compartments : log Koc: 5,5

### 12.5 Results of PBT and vPvB assessment

#### Product:

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

#### Components:

##### **Decamethylcyclopentasiloxane:**

Assessment : This substance is considered to be persistent, bioaccumulating and toxic (PBT).

: This substance is considered to be very persistent and very bioaccumulating (vPvB).

### 12.6 Other adverse effects

#### Product:

Endocrine disrupting potential : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

- |                        |   |   |
|------------------------|---|---|
| Product                | : | Dispose of in accordance with local regulations. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities. Do not dispose of waste into sewer. |
| 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.  |

### SECTION 14: Transport information

#### 14.1 UN number

- |      |   |         |
|------|---|---------|
| ADN  | : | UN 3082 |
| ADR  | : | UN 3082 |
| RID  | : | UN 3082 |
| IMDG | : | UN 3082 |
| IATA | : | UN 3082 |

#### 14.2 UN proper shipping name

- |      |   |   |
|------|---|---|
| ADN  | : | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.<br>(lambda-cyhalothrin (ISO)) |
| ADR  | : | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.<br>(lambda-cyhalothrin (ISO)) |
| RID  | : | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.<br>(lambda-cyhalothrin (ISO)) |
| IMDG | : | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.<br>(lambda-cyhalothrin (ISO)) |
| IATA | : | Environmentally hazardous substance, liquid, n.o.s.<br>(lambda-cyhalothrin (ISO)) |

#### 14.3 Transport hazard class(es)

- |      | Class | Subsidiary risks |
|------|-------|------------------|
| ADN  | :     | 9                |
| ADR  | :     | 9                |
| RID  | :     | 9                |
| IMDG | :     | 9                |

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**IATA** : 9

## 14.4 Packing group

### ADN

Packing group : III  
 Classification Code : M6  
 Hazard Identification Number : 90  
 Labels : 9

### ADR

Packing group : III  
 Classification Code : M6  
 Hazard Identification Number : 90  
 Labels : 9  
 Tunnel restriction code : (-)

### RID

Packing group : III  
 Classification Code : M6  
 Hazard Identification Number : 90  
 Labels : 9

### IMDG

Packing group : III  
 Labels : 9  
 EmS Code : F-A, S-F

### IATA (Cargo)

Packing instruction (cargo aircraft) : 964  
 Packing instruction (LQ) : Y964  
 Packing group : III  
 Labels : Miscellaneous

### IATA (Passenger)

Packing instruction (passenger aircraft) : 964  
 Packing instruction (LQ) : Y964  
 Packing group : III  
 Labels : Miscellaneous

## 14.5 Environmental hazards

### ADN

Environmentally hazardous : yes

### ADR

Environmentally hazardous : yes

### RID

Environmentally hazardous : yes

### IMDG

Marine pollutant : yes

### IATA (Passenger)

Environmentally hazardous : yes

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### IATA (Cargo)

Environmentally hazardous : yes

### 14.6 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.

### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Remarks : Not applicable for product as supplied.

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## SECTION 15: Regulatory information

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

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

AICS : not determined

DSL : not determined

IECSC : not determined

### 15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

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## SECTION 16: Other information

Other information : Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

### Full text of H-Statements

H301 : Toxic if swallowed.  
H311 : Toxic in contact with skin.  
H319 : Causes serious eye irritation.  
H330 : Fatal if inhaled.  
H370 : Causes damage to organs.  
H400 : Very toxic to aquatic life.  
H410 : Very toxic to aquatic life with long lasting effects.

### Full text of other abbreviations

Acute Tox. : Acute toxicity  
Aquatic Acute : Short-term (acute) aquatic hazard  
Aquatic Chronic : Long-term (chronic) aquatic hazard  
Eye Irrit. : Eye irritation  
STOT SE : Specific target organ toxicity - single exposure  
2004/37/EC : Europe. Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work

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ZA OEL	:	South Africa. The Regulations for Hazardous Chemical Agents, Occupational Exposure Limits
2004/37/EC / STEL	:	Short term exposure limit
2004/37/EC / TWA	:	Long term exposure limit
ZA OEL / OEL- ML	:	Occupational Exposure Limit Maximum limit - 8- hour exposure or equivalent (12 hour shifts).
ZA OEL / OEL - ML STEL/C	:	Occupational Exposure Limit Maximum limit - Short term occupational exposure limits / ceiling limits

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; 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; 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; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECL - 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

### Further information

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

### Classification of the mixture:

Acute Tox. 4	H332
Acute Tox. 4	H312
Eye Irrit. 2	H319

### Classification procedure:

Based on product data or assessment
Based on product data or assessment
Based on product data or assessment

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STOT SE 2	H371	Calculation method
Aquatic Acute 1	H400	Calculation method
Aquatic Chronic 1	H410	Calculation method

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.

ZA / EN