

## Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

Version 5.0      Revision Date: 18.09.2023      SDS Number: 1204428-00018      Date of last issue: 04.04.2023  
Date of first issue: 09.01.2017

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### SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

#### Manufacturer or supplier's details

Company name of supplier : MSD  
Address : 126 E. Lincoln Avenue  
Rahway, New Jersey U.S.A. 07065  
Telephone : 908-740-4000  
Emergency telephone : 1-908-423-6000  
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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### SECTION 2. HAZARDS IDENTIFICATION

#### GHS Classification

Acute toxicity (Oral) : Category 4  
Acute toxicity (Inhalation) : Category 3  
Acute toxicity (Dermal) : Category 5  
Skin corrosion/irritation : Category 2  
Serious eye damage/eye irritation : Category 2B  
Carcinogenicity (Inhalation) : Category 2  
Specific target organ toxicity - single exposure : Category 1 (Central nervous system, Nervous system)

#### GHS label elements

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H302 Harmful if swallowed.  
H313 May be harmful in contact with skin.  
H315 + H320 Causes skin and eye irritation.  
H331 Toxic if inhaled.  
H351 Suspected of causing cancer if inhaled.  
H370 Causes damage to organs (Central nervous system, Nervous system).

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### Precautionary Statements

:

#### Prevention:

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.  
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.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

#### Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.  
P302 + P352 IF ON SKIN: Wash with plenty of water.  
P304 + P340 + P311 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician.  
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.  
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.

#### Storage:

P405 Store locked up.

#### Disposal:

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

### Other hazards

None known.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

### Components

Chemical name	CAS-No.	Concentration (% w/w)
Polyvinyl chloride	9002-86-2	>= 70 -< 90
Pirimiphos-methyl (ISO)	29232-93-7	>= 10 -< 20
lambda-cyhalothrin (ISO)	91465-08-6	>= 5 -< 10
Titanium dioxide	13463-67-7	>= 0.1 -< 1

## SECTION 4. FIRST AID MEASURES

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- |   |   |  |
|---|---|--|
| General advice  | : | In the case of accident or if you feel unwell, seek medical advice immediately.<br>When symptoms persist or in all cases of doubt seek medical advice.   |
| If inhaled  | : | If inhaled, remove to fresh air.<br>If not breathing, give artificial respiration.<br>If breathing is difficult, give oxygen.<br>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.<br>Get medical attention.<br>Wash clothing before reuse.<br>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.<br>If easy to do, remove contact lens, if worn.<br>Get medical attention.   |
| If swallowed  | : | If swallowed, DO NOT induce vomiting unless directed to do so by medical personnel.<br>Get medical attention.<br>Rinse mouth thoroughly with water.<br>Never give anything by mouth to an unconscious person.                            |
| Most important symptoms and effects, both acute and delayed | : | Harmful if swallowed.<br>May be harmful in contact with skin.<br>Causes skin and eye irritation.<br>Toxic if inhaled.<br>Suspected of causing cancer if inhaled.<br>Causes 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.  |

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### SECTION 5. FIRE-FIGHTING MEASURES

- |                                       |   |   |
|---------------------------------------|---|---|
| Suitable extinguishing media          | : | Water spray<br>Alcohol-resistant foam<br>Carbon dioxide (CO <sub>2</sub> )<br>Dry chemical  |
| 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<br>Nitrogen oxides (NO <sub>x</sub> )<br>Chlorine compounds<br>Fluorine compounds   |
| Specific extinguishing methods        | : | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.<br>Use water spray to cool unopened containers.<br>Remove undamaged containers from fire area if it is safe to do |

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so.  
Evacuate area.

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

### SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : 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. 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 : Surround spill with absorbents and place a damp covering over the area to minimize entry of the material into the air. Add excess liquid to allow the material to enter into solution. Soak up with inert absorbent material. 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.

### SECTION 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 dust, fume, gas, mist, vapors or spray. 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.

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.

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- The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.
- Conditions for safe storage : Keep in properly labeled containers.  
Store locked up.  
Keep tightly closed.  
Keep in a cool, well-ventilated place.  
Store in accordance with the particular national regulations.
- Materials to avoid : Do not store with the following product types:  
Strong oxidizing agents  
Self-reactive substances and mixtures  
Organic peroxides  
Explosives  
Gases

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Polyvinyl chloride	9002-86-2	VLE-PPT (Respirable fraction)	1 mg/m <sup>3</sup>	NOM-010-STPS-2014
		TWA (Respirable particulate matter)	1 mg/m <sup>3</sup>	ACGIH
Pirimiphos-methyl (ISO)	29232-93-7	TWA	60 µg/m <sup>3</sup> (OEB 3)	Internal
		Further information: Skin		
		Wipe limit	600 µg/100 cm <sup>2</sup>	Internal
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
Titanium dioxide	13463-67-7	VLE-PPT	10 mg/m <sup>3</sup>	NOM-010-STPS-2014
		TWA (Respirable particulate matter)	2.5 mg/m <sup>3</sup> (Titanium dioxide)	ACGIH

- 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. Containment technologies suitable for controlling compounds are required to control at source and to prevent migration of the compound to uncontrolled areas (e.g., open-face containment devices).  
Minimize open handling.

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### 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	:	Particulates 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.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	solid
Color	:	No data available
Odor	:	characteristic
Odor Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not classified as a flammability hazard
Flammability (liquids)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available

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Vapor pressure	:	No data available
Relative vapor density	:	No data available
Relative density	:	No data available
Density	:	No data available
Solubility(ies)	:	
Water solubility	:	insoluble
Partition coefficient: n- octanol/water	:	No data available
Autoignition 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	:	No data available
Particle size	:	No data available

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**SECTION 10. STABILITY AND REACTIVITY**

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reac- tions	:	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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**SECTION 11. TOXICOLOGICAL INFORMATION****Information on likely routes of exposure**

Skin contact  
Ingestion  
Eye contact

**Acute toxicity**

Harmful if swallowed.  
May be harmful in contact with skin.

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Toxic if inhaled.

### **Product:**

Acute oral toxicity	:	Acute toxicity estimate: 654.55 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate: 0.7505 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate: 4,964 mg/kg Method: Calculation method

### **Components:**

#### **Pirimiphos-methyl (ISO):**

Acute oral toxicity	:	LD50 (Rat): 1,180 mg/kg
		LD50 (Rat): 2,400 - 5,976 mg/kg
		LD50 (Mouse): > 575 mg/kg
		LD50 (Dog): > 1,500 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): > 5.04 mg/l Exposure time: 4 h
Acute dermal toxicity	:	LD50 (Rabbit): 2,000 mg/kg
		LD50 (Rat): > 4,592 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

#### **Titanium dioxide:**

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): > 6.82 mg/l
		Exposure time: 4 h
		Test atmosphere: dust/mist



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Assessment: The substance or mixture has no acute inhalation toxicity

### Skin corrosion/irritation

Causes skin irritation.

#### Components:

##### Pirimiphos-methyl (ISO):

Species : Rabbit  
 Result : irritating

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

Species : Rabbit  
 Result : No skin irritation

##### Titanium dioxide:

Species : Rabbit  
 Result : No skin irritation

### Serious eye damage/eye irritation

Causes eye irritation.

#### Components:

##### Pirimiphos-methyl (ISO):

Species : Rabbit  
 Result : Mild eye irritation

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

Species : Rabbit  
 Result : Mild eye irritation

##### Titanium dioxide:

Species : Rabbit  
 Result : No eye irritation

### Respiratory or skin sensitization

#### Skin sensitization

Not classified based on available information.

#### Respiratory sensitization

Not classified based on available information.

#### Components:

##### Pirimiphos-methyl (ISO):

Test Type : Maximization Test  
 Routes of exposure : Dermal

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Species : Guinea pig  
 Result : Not a skin sensitizer.

### lambda-cyhalothrin (ISO):

Test Type : Magnusson-Kligman-Test  
 Routes of exposure : Dermal  
 Species : Guinea pig  
 Result : Not a skin sensitizer.

### Titanium dioxide:

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

### Germ cell mutagenicity

Not classified based on available information.

### Components:

#### Pirimiphos-methyl (ISO):

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
 Result: equivocal  
 Test Type: sister chromatid exchange assay  
 Result: positive  
 Genotoxicity in vivo : Test Type: Micronucleus test  
 Species: Mouse  
 Result: negative  
 Test Type: Rodent dominant lethal test (germ cell) (in vivo)  
 Species: Mouse  
 Result: negative

#### 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

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

### Titanium dioxide:

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

Genotoxicity in vivo : Test Type: In vivo micronucleus test  
Species: Mouse  
Result: negative

### Carcinogenicity

Suspected of causing cancer if inhaled.

### Components:

#### Pirimiphos-methyl (ISO):

Species : Rat  
Application Route : Oral  
Exposure time : 2 Years  
Result : negative

Species : Mouse  
Application Route : Oral  
Exposure time : 80 weeks  
Result : negative

Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

#### 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

### Titanium dioxide:

Species : Rat  
Application Route : inhalation (dust/mist/fume)  
Exposure time : 2 Years  
Method : OECD Test Guideline 453  
Result : positive

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Remarks : The mechanism or mode of action may not be relevant in humans.

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in inhalation studies with animals.

### Reproductive toxicity

Not classified based on available information.

### Components:

#### Pirimiphos-methyl (ISO):

Effects on fertility : Test Type: Two-generation reproduction toxicity study  
Species: Rat  
Application Route: Oral  
Fertility: NOAEL: 15.4 mg/kg body weight  
Result: No effects on fertility.

Effects on fetal development : Test Type: Development  
Species: Rat  
Application Route: Oral  
Developmental Toxicity: NOAEL: 150 mg/kg body weight  
Result: No effects on early embryonic development.  
Remarks: Maternal toxicity observed.

Test Type: Development  
Species: Rabbit  
Application Route: Oral  
Developmental Toxicity: NOAEL: 48 mg/kg body weight  
Result: No effects on early embryonic development.  
Remarks: Maternal toxicity observed.

#### 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 fetal 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 fetal development., Reduced maternal body weight gain., Reduced fetal weight.  
Remarks: Based on data from similar materials

Test Type: Development

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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 fetal development., Reduced maternal body weight gain., Reduced fetal weight.  
 Remarks: Based on data from similar materials

### STOT-single exposure

Causes damage to organs (Central nervous system, Nervous system).

#### Components:

##### Pirimiphos-methyl (ISO):

Target Organs : Central nervous system  
 Assessment : Causes damage to organs.

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

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

### STOT-repeated exposure

Not classified based on available information.

#### Components:

##### Pirimiphos-methyl (ISO):

Remarks : Not classified due to inconclusive data.

### Repeated dose toxicity

#### Components:

##### Pirimiphos-methyl (ISO):

Species : Rat  
 NOAEL : 0.5 mg/kg  
 LOAEL : 2.5 mg/kg  
 Application Route : Oral  
 Exposure time : 28 d  
 Target Organs : Central nervous system  
 Symptoms : cholinesterase inhibition

Species : Dog  
 LOAEL : 2 mg/kg  
 Application Route : Oral  
 Exposure time : 13 Weeks  
 Target Organs : Central nervous system  
 Symptoms : cholinesterase inhibition

Species : Rat  
 NOAEL : 25 mg/kg  
 Application Route : Oral

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Exposure time : 90 d  
 Target Organs : Central nervous system  
 Symptoms : cholinesterase inhibition  
 Remarks : No significant adverse effects were reported

Species : Dog  
 LOAEL : 0.5 mg/kg  
 Application Route : Oral  
 Exposure time : 2 y  
 Target Organs : Central nervous system  
 Symptoms : cholinesterase inhibition

Species : Rat  
 LOAEL : 2.1 mg/kg  
 Application Route : Oral  
 Exposure time : 2 y  
 Target Organs : Central nervous system  
 Symptoms : cholinesterase inhibition

### 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 y  
 Target Organs : Nervous system  
 Symptoms : Gastrointestinal disturbance, Vomiting, Convulsions, ataxia, Liver effects

### Titanium dioxide:

Species : Rat

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NOAEL	:	24,000 mg/kg
Application Route	:	Ingestion
Exposure time	:	28 Days
Species	:	Rat
NOAEL	:	10 mg/m <sup>3</sup>
Application Route	:	inhalation (dust/mist/fume)
Exposure time	:	2 y

### Aspiration toxicity

Not classified based on available information.

### Experience with human exposure

#### Components:

#### **Pirimiphos-methyl (ISO):**

Ingestion	:	Symptoms: Nausea, Vomiting, Dizziness, confusion, Headache, Weakness, stomach discomfort, Blurred vision, muscle twitching
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#### **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

### Ecotoxicity

#### Components:

#### **Pirimiphos-methyl (ISO):**

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 0.2 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.00021 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): > 1 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to fish (Chronic toxicity)	:	NOEC (Pimephales promelas (fathead minnow)): 0.13 mg/l Exposure time: 35 d Method: OECD Test Guideline 210

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Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.00011 mg/l  
 Exposure time: 21 d  
 Method: OECD Test Guideline 211

### 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

Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): 0.000062 mg/l  
 Exposure time: 32 d  
 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

### Titanium dioxide:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l  
 Exposure time: 96 h  
 Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l  
 Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (Skeletonema costatum (marine diatom)): > 10,000 mg/l  
 Exposure time: 72 h

Toxicity to microorganisms : EC50: > 1,000 mg/l  
 Exposure time: 3 h  
 Method: OECD Test Guideline 209

### Persistence and degradability

#### Components:

#### Pirimiphos-methyl (ISO):

Stability in water : Hydrolysis: 50 %(117 d)



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### II

#### Bioaccumulative potential

##### Components:

##### Pirimiphos-methyl (ISO):

Partition coefficient: n-octanol/water : log Pow: 4.2

##### 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

## SECTION 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.

## SECTION 14. TRANSPORT INFORMATION

#### International Regulations

##### UNRTDG

UN number : UN 2811

Proper shipping name : TOXIC SOLID, ORGANIC, N.O.S.  
(lambda-cyhalothrin (ISO), Pirimiphos-methyl (ISO))

Class : 6.1

Packing group : III

Labels : 6.1

Environmentally hazardous : yes

##### IATA-DGR

UN/ID No. : UN 2811

Proper shipping name : Toxic solid, organic, n.o.s.  
(lambda-cyhalothrin (ISO), Pirimiphos-methyl (ISO))

Class : 6.1

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Packing group : III  
 Labels : Toxic  
 Packing instruction (cargo aircraft) : 677  
 Packing instruction (passenger aircraft) : 670

### IMDG-Code

UN number : UN 2811  
 Proper shipping name : TOXIC SOLID, ORGANIC, N.O.S. (lambda-cyhalothrin (ISO), Pirimiphos-methyl (ISO))  
 Class : 6.1  
 Packing group : III  
 Labels : 6.1  
 EmS Code : F-A, S-A  
 Marine pollutant : yes

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

### Domestic regulation

#### NOM-002-SCT

UN number : UN 2811  
 Proper shipping name : TOXIC SOLID, ORGANIC, N.O.S. (lambda-cyhalothrin (ISO), Pirimiphos-methyl (ISO))  
 Class : 6.1  
 Packing group : III  
 Labels : 6.1

### Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

## SECTION 15. REGULATORY INFORMATION

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

NOM-165-SEMARNAT-2013, Norm establishing a list of substances subject to report for the Registry of Emissions and Pollutant Transfer

Components	CAS-No.	MPU (kg/year)	Transfer/Release (kg/year)
lambda-cyhalothrin (ISO)	91465-08-6	2500 kg/year	100 kg/year

MPU: Applicable reporting threshold when the substance, pure or in mixture in a composition of more than 1% by weight, is used for industrial activities at facilities that are subject to report or are produced by them

Federal Law for the control of chemical precursors, essential chemical products and machinery for producing capsules, tablets and pills. : Not applicable

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

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

### SECTION 16. OTHER INFORMATION

Revision Date	:	18.09.2023
Date format	:	dd.mm.yyyy

#### Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
NOM-010-STPS-2014	:	Mexico. Norm NOM-010-STPS-2014 on Chemicals Polluting the Work Environment - Identification, Assessment and Control - Appendix 1 Occupational Exposure Limits
ACGIH / TWA	:	8-hour, time-weighted average
NOM-010-STPS-2014 / VLE-	:	Time weighted average limit value
PPT	:	

AICC - 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; 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

# SAFETY DATA SHEET



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

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

The information is considered as correct, but not exhaustive, and will be used only as a guide, which is based in the current knowledge of the substance or mixture, and is applicable to proper safety precautions for the product.

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