

## Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

Version 5.0      Revision Date: 18.09.2023      SDS Number: 1204406-00017      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 : MSD

Address : Rua Coronel Bento Soares, 530  
Cruzeiro - Sao Paulo - Brazil CEP 12730-340

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 in accordance with ABNT NBR 14725 Standard

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 3

Acute toxicity (Dermal) : Category 5

Skin irritation : Category 2

Eye irritation : Category 2B

Specific target organ toxicity - single exposure : Category 1 (Central nervous system)

Specific target organ toxicity - single exposure : Category 2 (Nervous system)

Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 1

#### GHS label elements in accordance with ABNT NBR 14725 Standard

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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.  
H370 Causes damage to organs (Central nervous system).  
H371 May cause damage to organs (Nervous system).  
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements : **Prevention:**  
P273 Avoid release to the environment.  
P280 Wear protective gloves.  
**Response:**  
P304 + P340 + P311 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor.  
P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P391 Collect spillage.

### Other hazards which do not result in classification

None known.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

### Components

Chemical name	CAS-No.	Classification	Concentration (% w/w)
Polyvinyl chloride	9002-86-2		>= 70 -< 90
Pirimiphos-methyl (ISO)	29232-93-7	Acute toxicity (Oral), Category 4 Acute toxicity (Inhalation), Category 5 Acute toxicity (Dermal), Category 4 Skin irritation, Category 2 Eye irritation, Category 2B Specific target organ toxicity - single exposure (Central nervous	>= 10 -< 20

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		system), Category 1 Short-term (acute) aquatic hazard, Category 1 Long-term (chronic) aquatic hazard, Category 1	
lambda-cyhalothrin (ISO)	91465-08-6	Acute toxicity (Oral), Category 3 Acute toxicity (Inhalation), Category 2 Acute toxicity (Dermal), Category 3 Eye irritation, Category 2B Specific target organ toxicity - single exposure (Nervous system), Category 1 Short-term (acute) aquatic hazard, Category 1 Long-term (chronic) aquatic hazard, Category 1	>= 5 -< 10
Titanium dioxide	13463-67-7	Carcinogenicity (Inhalation), Category 2	>= 0,1 -< 1

### SECTION 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 unless directed to do

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Most important symptoms and effects, both acute and delayed	:	so by medical personnel. Get medical attention. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person. Harmful if swallowed. May be harmful in contact with skin. Causes skin and eye irritation. Toxic if inhaled. 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 Alcohol-resistant foam Carbon dioxide (CO <sub>2</sub> ) 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 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 fire-fighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

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### 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.

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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.<br>Do not breathe dust, fume, gas, mist, vapors or spray.<br>Do not swallow.<br>Do not get in eyes.<br>Wash skin thoroughly after handling.<br>Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment<br>Keep container tightly closed.<br>Do not eat, drink or smoke when using this product.<br>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.<br>When using do not eat, drink or smoke.<br>Wash contaminated clothing before re-use.<br>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.<br>Store locked up.<br>Keep tightly closed.<br>Keep in a cool, well-ventilated place.<br>Store in accordance with the particular national regulations.  |
| Materials to avoid          | : | Do not store with the following product types:<br>Strong oxidizing agents<br>Self-reactive substances and mixtures<br>Organic peroxides<br>Explosives<br>Gases   |

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Ingredients with workplace control parameters

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Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Polyvinyl chloride	9002-86-2	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	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.

### 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

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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
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

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Particle size : No data available

### SECTION 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.

### 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.  
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



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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  
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

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||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  
||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

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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

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

Not classified based on available information.

### Components:

#### Pirimiphos-methyl (ISO):

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

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

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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  
 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

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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  
 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).  
 May cause damage to organs (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.

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### 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
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

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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  
 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

#### 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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### 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
M-Factor (Acute aquatic toxicity)	:	1.000
Toxicity to fish (Chronic toxicity)	:	NOEC (Pimephales promelas (fathead minnow)): 0,13 mg/l Exposure time: 35 d Method: OECD Test Guideline 210
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
M-Factor (Chronic aquatic toxicity)	:	100

##### **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



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	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
M-Factor (Chronic aquatic toxicity)	: 10.000

### 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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#### Bioaccumulative potential

#### Components:

#### Pirimiphos-methyl (ISO):

Partition coefficient: n-octanol/water	: log Pow: 4,2
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#### lambda-cyhalothrin (ISO):

Bioaccumulation	: Bioconcentration factor (BCF): 2.240 Method: OECD Test Guideline 305
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Partition coefficient: n-octanol/water	: log Pow: 7,0 (20 °C)
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#### Mobility in soil

#### Components:

#### lambda-cyhalothrin (ISO):

## Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

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|| 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

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

**Pirimiphos-Methyl / Lambda-Cyhalothrin For-  
mulation**

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Date of first issue: 09.01.2017

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**ANTT**

UN number : UN 2811  
Proper shipping name : TOXIC SOLID, ORGANIC, N.O.S.  
**II** (lambda-cyhalothrin (ISO), Pirimiphos-methyl (ISO))  
Class : 6.1  
Packing group : III  
Labels : 6.1  
Hazard Identification Number : 60

**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.

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**SECTION 15. REGULATORY INFORMATION****Safety, health and environmental regulations/legislation specific for the substance or mixture**

National List of Carcinogenic Agents for Humans - (LINACH)

**II** Group 2B: Possibly carcinogenic to humans  
Titanium dioxide 13463-67-7

Brazil. List of chemicals controlled by the Federal Police : Not applicable

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

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

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**SECTION 16. OTHER INFORMATION**

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

**Further information**

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.

**Full text of other abbreviations**

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

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**Pirimiphos-Methyl / Lambda-Cyhalothrin For-  
mulation**

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

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 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

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

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