

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

Version 3.0      Revision Date: 2023/09/18      SDS Number: 1204410-00017      Date of last issue: 2023/04/04  
Date of first issue: 2017/01/09

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

#### Manufacturer or supplier's details

Company : MSD

Address : No. 485 Jing Tai Road  
Pu Tuo District - Shanghai - China 200331

Telephone : +1-908-740-4000

Emergency telephone number : 86-571-87268110

E-mail address : EHSDATASTEWARD@msd.com

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

Recommended use : Veterinary product

Restrictions on use : Not applicable

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

**Appearance** : solid  
**Colour** : No data available  
**Odour** : characteristic

Harmful if swallowed. May be harmful in contact with skin. Causes skin and eye irritation. Toxic if inhaled. Causes damage to organs. Very toxic to aquatic life with long lasting effects.

#### 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

Specific target organ toxicity - single exposure : Category 1

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Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 1

### 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.  
H370 Causes damage to organs.  
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**  
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ 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.  
P273 Avoid release to the environment.  
P280 Wear protective gloves.  
**Response:**  
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.  
P302 + P352 IF ON SKIN: Wash with plenty of water.  
P304 + P340 + P311 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor.  
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.  
P391 Collect spillage.

**Storage:**

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P405 Store locked up.

### Disposal:

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

### Physical and chemical hazards

Not classified based on available information.

### Health hazards

Harmful if swallowed. Toxic if inhaled. May be harmful in contact with skin. Causes skin irritation. Causes eye irritation. Causes damage to organs.

### Environmental hazards

Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

### Other hazards which do not result in classification

None known.

## 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	>= 2.5 -< 10
Titanium dioxide	13463-67-7	>= 0.1 -< 1

## 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.

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If swallowed	:	If easy to do, remove contact lens, if worn. Get medical attention. 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.
Most important symptoms and effects, both acute and delayed	:	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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### 5. FIREFIGHTING 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 firefighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

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### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).
Environmental precautions	:	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Retain and dispose of contaminated wash water.

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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 minimise 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.

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### 7. HANDLING AND STORAGE

#### 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 dust, fume, gas, mist, vapours 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.

Avoidance of contact : Oxidizing agents

#### Storage

Conditions for safe storage : Keep in properly labelled containers.  
Store locked up.  
Keep tightly closed.  
Keep in a cool, well-ventilated place.  
Store in accordance with the particular national regulations.

Materials to avoid : Do not store with the following product types:  
Explosives

Packaging material : Unsuitable material: None known.

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### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis	
Polyvinyl chloride	9002-86-2	PC-TWA (Total dust)	5 mg/m <sup>3</sup>	CN OEL	
		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	PC-TWA (Total dust)	8 mg/m <sup>3</sup>	CN OEL	
		Further information: G2B - Possibly carcinogenic to humans			
		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

**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.

**Skin and body protection** : Work uniform or laboratory coat.  
Additional body garments should be used based upon the

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task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces.  
Use appropriate degowning techniques to remove potentially contaminated clothing.

Hand protection

Material : Chemical-resistant gloves

Remarks : Consider double gloving.

Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.  
When using do not eat, drink or smoke.  
Wash contaminated clothing before re-use.  
The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : solid

Colour : No data available

Odour : characteristic

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 : 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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Vapour pressure : No data available

Relative vapour 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

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Viscosity  
Viscosity, kinematic : No data available

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Molecular weight : No data available

Particle size : No data available

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### 10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : Can react with strong oxidizing agents.

Conditions to avoid : None known.

Incompatible materials : Oxidizing agents

Hazardous decomposition products : No hazardous decomposition products are known.

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### 11. TOXICOLOGICAL INFORMATION

Exposure routes : Skin contact  
Ingestion  
Eye contact



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### 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  
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

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### 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  
Result : Mild eye irritation

#### lambda-cyhalothrin (ISO):

Species : Rabbit  
Result : Mild eye irritation

### Titanium dioxide:

Species : Rabbit  
Result : No eye irritation

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### Respiratory or skin sensitisation

#### Skin sensitisation

Not classified based on available information.

#### Respiratory sensitisation

Not classified based on available information.

#### Components:

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

Test Type	: Maximisation Test
Exposure routes	: Dermal
Species	: Guinea pig
Result	: Not a skin sensitizer.

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

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

##### Titanium dioxide:

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:

##### 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

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### 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  
Result : negative

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

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### 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 foetal 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

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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 foetal development : Test Type: Development  
Species: Rat  
Application Route: Oral  
General Toxicity Maternal: NOAEL: 10 mg/kg body weight  
Developmental Toxicity: LOAEL: 15 mg/kg body weight  
Result: No effects on foetal development, Reduced maternal body weight gain, Reduced foetal weight  
Remarks: Based on data from similar materials

Test Type: Development  
Species: Rabbit  
Application Route: Oral  
General Toxicity Maternal: NOAEL: 10 mg/kg body weight  
Developmental Toxicity: NOAEL: 30 mg/kg body weight  
Result: No effects on foetal development, Reduced maternal body weight gain, Reduced foetal weight  
Remarks: Based on data from similar materials

### STOT - single exposure

Causes damage to organs.

### 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.

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### 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  
||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 yr  
||Target Organs : Central nervous system  
||Symptoms : cholinesterase inhibition

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

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

||Species : Dog

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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

### 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 yr

### Aspiration toxicity

Not classified based on available information.

### Experience with human exposure

#### Components:

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

Ingestion : Symptoms: Nausea, Vomiting, Dizziness, confusion, Head-



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|| ache, 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  
|| Eye contact : Symptoms: Eye irritation  
|| Ingestion : Symptoms: Gastrointestinal disturbance  
Remarks: Can be absorbed through skin.

## 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

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	LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.00021 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): 0.00004 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: Based on data from similar materials
M-Factor (Acute aquatic toxicity)	: 10,000
Toxicity to fish (Chronic toxicity)	: NOEC (Pimephales promelas (fathead minnow)): 0.000062 mg/l Exposure time: 32 d 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

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

Bioaccumulation : Bioconcentration factor (BCF): 2,240  
Method: OECD Test Guideline 305

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

### Mobility in soil

#### Components:

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

Distribution among environmental compartments : log Koc: 5.5

### Other adverse effects

No data available

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## 13. DISPOSAL CONSIDERATIONS

### Disposal methods

Waste from residues : Do not dispose of waste into sewer.  
Dispose of in accordance with local regulations.  
Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.  
If not otherwise specified: Dispose of as unused product.

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## 14. TRANSPORT INFORMATION

### International Regulations

#### **UNRTDG**

UN number : UN 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.

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**II** (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  
**II** 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.

### National Regulations

#### GB 6944/12268

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  
Marine pollutant : yes

### 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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## 15. REGULATORY INFORMATION

### National regulatory information

#### Law on the Prevention and Control of Occupational Diseases

#### Yangtze River Protection Law

This product does not contain any dangerous chemicals prohibited for inland river transport.

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

AICS : not determined

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DSL : not determined

IECSC : not determined

### 16. OTHER INFORMATION

Revision Date : 2023/09/18

#### 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/>

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

Date format : yyyy/mm/dd

#### Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)  
CN OEL : Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.

ACGIH / TWA : 8-hour, time-weighted average  
CN OEL / PC-TWA : Permissible concentration - 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,

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tion, 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

### Disclaimer

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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