

# Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

Version 4.0      Revision Date: 18.09.2023      SDS Number: 1204433-00018      Date of last issue: 04.04.2023  
Date of first issue: 09.01.2017

---

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

### 1.1 Product identifier

Trade name : Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

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

Use of the Substance/Mixture : Veterinary product

Recommended restrictions on use : Not applicable

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

Company : MSD  
20 Spartan Road  
1619 Spartan, South Africa

Telephone : +27119239300

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

### 1.4 Emergency telephone number

+1-908-423-6000

---

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

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




Acute toxicity, Category 4	H302: Harmful if swallowed.
Acute toxicity, Category 3	H331: Toxic if inhaled.
Skin irritation, Category 2	H315: Causes skin irritation.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Specific target organ toxicity - single exposure, Category 1	H370: Causes damage to organs.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

### 2.2 Label elements

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

# Pirimiphos-Methyl / Lambda-Cyhalothrin For- mulation

Version 4.0      Revision Date: 18.09.2023      SDS Number: 1204433-00018      Date of last issue: 04.04.2023  
Date of first issue: 09.01.2017

- Hazard pictograms :   
- Signal word : Danger
- Hazard statements : H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H331 Toxic if inhaled.  
H370 Causes damage to organs.  
H410 Very toxic to aquatic life with long lasting effects.
- Precautionary statements : **Prevention:**  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ eye protection/ face protection.
- 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.

Hazardous components which must be listed on the label:

Pirimiphos-methyl (ISO)  
lambda-cyhalothrin (ISO)

## 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Pirimiphos-methyl (ISO)	29232-93-7 249-528-5 015-134-00-5	Acute Tox. 4; H302 Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 1; H370 (Central nervous system)	>= 10 - < 20

## Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

Version 4.0      Revision Date: 18.09.2023      SDS Number: 1204433-00018      Date of last issue: 04.04.2023  
Date of first issue: 09.01.2017

		Aquatic Acute 1; H400 Aquatic Chronic 1; H410 <hr/> M-Factor (Acute aquatic toxicity): 1.000 M-Factor (Chronic aquatic toxicity): 100	
lambda-cyhalothrin (ISO)	91465-08-6 415-130-7 607-252-00-6	Acute Tox. 3; H301 Acute Tox. 2; H330 Acute Tox. 3; H311 Eye Irrit. 2; H319 STOT SE 1; H370 (Nervous system) Aquatic Acute 1; H400 Aquatic Chronic 1; H410 <hr/> M-Factor (Acute aquatic toxicity): 10.000 M-Factor (Chronic aquatic toxicity): 10.000	>= 2,5 - < 10

For explanation of abbreviations see section 16.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

- General advice : In the case of accident or if you feel unwell, seek medical advice immediately.  
When symptoms persist or in all cases of doubt seek medical advice.
- Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).
- If inhaled : If inhaled, remove to fresh air.  
If not breathing, give artificial respiration.  
If breathing is difficult, give oxygen.  
Get medical attention.
- In case of skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.  
Get medical attention.

## Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
4.0	18.09.2023	1204433-00018	Date of first issue: 09.01.2017

---

- Wash clothing before reuse.  
Thoroughly clean shoes before reuse.
- In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.  
If easy to do, remove contact lens, if worn.  
Get medical attention.
- If swallowed : If swallowed, DO NOT induce vomiting unless directed to do so by medical personnel.  
Get medical attention.  
Rinse mouth thoroughly with water.  
Never give anything by mouth to an unconscious person.

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

- Risks : Harmful if swallowed.  
Causes skin irritation.  
Causes serious eye irritation.  
Toxic if inhaled.  
Causes damage to organs.

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

- Treatment : Treat symptomatically and supportively.

---

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

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

- Unsuitable extinguishing media : None known.

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

- Specific hazards during fire-fighting : 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

### 5.3 Advice for firefighters

- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.  
Use personal protective equipment.
- Specific extinguishing meth- : Use extinguishing measures that are appropriate to local cir-

## Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

Version 4.0	Revision Date: 18.09.2023	SDS Number: 1204433-00018	Date of last issue: 04.04.2023 Date of first issue: 09.01.2017
----------------	------------------------------	------------------------------	---

ods cumstances 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.

### SECTION 6: Accidental release measures

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

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

#### 6.2 Environmental precautions

Environmental precautions : Avoid release to the environment.  
Prevent further leakage or spillage if safe to do so.  
Retain and dispose of contaminated wash water.  
Local authorities should be advised if significant spillages cannot be contained.

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

Methods for cleaning up : 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.

#### 6.4 Reference to other sections

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

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.  
Local/Total ventilation : If sufficient ventilation is unavailable, use with local exhaust ventilation.  
Advice on safe handling : Do not get on skin or clothing.  
Do not breathe 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

## Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

Version 4.0      Revision Date: 18.09.2023      SDS Number: 1204433-00018      Date of last issue: 04.04.2023  
Date of first issue: 09.01.2017

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.  
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.

### 7.2 Conditions for safe storage, including any incompatibilities

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

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

### 7.3 Specific end use(s)

Specific use(s) : No data available

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Polyvinyl chloride	9002-86-2	OEL-RL (respirable dust fraction)	2 mg/m <sup>3</sup>	ZA OEL
Further information: Occupational Exposure Limits - Restricted Limits For Hazardous Chemical Agents				
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

## Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
4.0	18.09.2023	1204433-00018	Date of first issue: 09.01.2017

---

### 8.2 Exposure controls

#### Engineering measures

All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment. 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

Eye/face protection	:	Wear safety glasses with side shields or goggles. If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles. Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols.
Hand protection	:	
Material	:	Chemical-resistant gloves
Remarks	:	Consider double gloving.
Skin and body protection	:	Work uniform or laboratory coat. Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces. Use appropriate degowning techniques to remove potentially contaminated clothing.
Respiratory protection	:	If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.
Filter type	:	Particulates type (P)

---

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic 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

## Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
4.0	18.09.2023	1204433-00018	Date of first issue: 09.01.2017

---

Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	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.

### 9.2 Other information

Flammability (liquids)	:	No data available
Molecular weight	:	No data available
Particle size	:	No data available

---

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Not classified as a reactivity hazard.

### 10.2 Chemical stability

Stable under normal conditions.

### 10.3 Possibility of hazardous reactions

Hazardous reactions	:	Can react with strong oxidizing agents.
---------------------	---	---

### 10.4 Conditions to avoid

Conditions to avoid	:	None known.
---------------------	---	-------------



## Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

Version 4.0	Revision Date: 18.09.2023	SDS Number: 1204433-00018	Date of last issue: 04.04.2023 Date of first issue: 09.01.2017
----------------	------------------------------	------------------------------	---

### 10.5 Incompatible materials

Materials to avoid : Oxidizing agents

### 10.6 Hazardous decomposition products

No hazardous decomposition products are known.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

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

#### Acute toxicity

Harmful if swallowed.  
Toxic if inhaled.

#### Product:

Acute oral toxicity : Acute toxicity estimate: 654,55 mg/kg  
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: 0,7676 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 2.000 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

## Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

Version 4.0      Revision Date: 18.09.2023      SDS Number: 1204433-00018      Date of last issue: 04.04.2023  
Date of first issue: 09.01.2017

---

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

### **Skin corrosion/irritation**

Causes skin irritation.

#### **Components:**

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

Species : Rabbit  
Result : irritating

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

Species : Rabbit  
Result : No skin irritation

### **Serious eye damage/eye irritation**

Causes serious eye irritation.

#### **Components:**

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

Species : Rabbit  
Result : Mild eye irritation

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

Species : Rabbit  
Result : Mild eye irritation

### **Respiratory or skin sensitisation**

#### **Skin sensitisation**

Not classified based on available information.

#### **Respiratory sensitisation**

Not classified based on available information.

#### **Components:**

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

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

## Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

Version 4.0      Revision Date: 18.09.2023      SDS Number: 1204433-00018      Date of last issue: 04.04.2023  
 Date of first issue: 09.01.2017

### lambda-cyhalothrin (ISO):

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

### Germ cell mutagenicity

Not classified based on available information.

### Components:

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

### Carcinogenicity

Not classified based on available information.

## Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

Version 4.0      Revision Date: 18.09.2023      SDS Number: 1204433-00018      Date of last issue: 04.04.2023  
Date of first issue: 09.01.2017

### 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

### **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  
Remarks: Maternal toxicity observed.

## Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

Version 4.0      Revision Date: 18.09.2023      SDS Number: 1204433-00018      Date of last issue: 04.04.2023  
 Date of first issue: 09.01.2017

||

### 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.

### Components:

#### Pirimiphos-methyl (ISO):

Remarks : Not classified due to inconclusive data.

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

Version 4.0      Revision Date: 18.09.2023      SDS Number: 1204433-00018      Date of last issue: 04.04.2023  
Date of first issue: 09.01.2017

### 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
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

## Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

Version 4.0      Revision Date: 18.09.2023      SDS Number: 1204433-00018      Date of last issue: 04.04.2023  
 Date of first issue: 09.01.2017

Application Route	:	Dermal
Exposure time	:	21 d
Target Organs	:	Nervous system
Species	:	Rat
NOAEL	:	0,08 mg/kg
LOAEL	:	0,9 mg/kg
Application Route	:	Inhalation
Exposure time	:	21 d
Target Organs	:	Nervous system
Species	:	Dog
NOAEL	:	0,1 mg/kg
LOAEL	:	0,5 mg/kg
Application Route	:	Oral
Exposure time	:	1 yr
Target Organs	:	Nervous system
Symptoms	:	Gastrointestinal disturbance, Vomiting, Convulsions, ataxia, Liver effects

### Aspiration toxicity

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

## SECTION 12: Ecological information

### 12.1 Toxicity

#### 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

## Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

Version 4.0      Revision Date: 18.09.2023      SDS Number: 1204433-00018      Date of last issue: 04.04.2023  
Date of first issue: 09.01.2017

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: 0,13 mg/l  
Exposure time: 35 d  
Species: Pimephales promelas (fathead minnow)  
Method: OECD Test Guideline 210

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,00011 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
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: 0,000062 mg/l  
Exposure time: 32 d  
Species: Pimephales promelas (fathead minnow)  
Method: OECD Test Guideline 210  
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,0035 µg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Method: OECD Test Guideline 211  
Remarks: Based on data from similar materials

M-Factor (Chronic aquatic toxicity) : 10.000



## Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

Version 4.0      Revision Date: 18.09.2023      SDS Number: 1204433-00018      Date of last issue: 04.04.2023  
Date of first issue: 09.01.2017

---

||toxicity)

### 12.2 Persistence and degradability

#### Components:

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

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

### 12.3 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)

### 12.4 Mobility in soil

#### Components:

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

||Distribution among environmental compartments : log Koc: 5,5

### 12.5 Results of PBT and vPvB assessment

#### Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### 12.6 Other adverse effects

#### Product:

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

---

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : Dispose of in accordance with local regulations.

## Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
4.0	18.09.2023	1204433-00018	Date of first issue: 09.01.2017

According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

Do not dispose of waste into sewer.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

If not otherwise specified: Dispose of as unused product.

### SECTION 14: Transport information

#### 14.1 UN number

ADN	:	UN 2811
ADR	:	UN 2811
RID	:	UN 2811
IMDG	:	UN 2811
IATA	:	UN 2811

#### 14.2 UN proper shipping name

ADN	:	TOXIC SOLID, ORGANIC, N.O.S.
II		(lambda-cyhalothrin (ISO), Pirimiphos-methyl (ISO))
ADR	:	TOXIC SOLID, ORGANIC, N.O.S.
II		(lambda-cyhalothrin (ISO), Pirimiphos-methyl (ISO))
RID	:	TOXIC SOLID, ORGANIC, N.O.S.
II		(lambda-cyhalothrin (ISO), Pirimiphos-methyl (ISO))
IMDG	:	TOXIC SOLID, ORGANIC, N.O.S.
II		(lambda-cyhalothrin (ISO), Pirimiphos-methyl (ISO))
IATA	:	Toxic solid, organic, n.o.s.
II		(lambda-cyhalothrin (ISO), Pirimiphos-methyl (ISO))

#### 14.3 Transport hazard class(es)

	Class	Subsidiary risks
ADN	:	6.1
ADR	:	6.1
RID	:	6.1
IMDG	:	6.1
IATA	:	6.1

#### 14.4 Packing group

ADN		
Packing group	:	III
Classification Code	:	T2
Hazard Identification Number	:	60
Labels	:	6.1

## Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
4.0	18.09.2023	1204433-00018	Date of first issue: 09.01.2017

---

**ADR**

Packing group : III  
 Classification Code : T2  
 Hazard Identification Number : 60  
 Labels : 6.1  
 Tunnel restriction code : (E)

**RID**

Packing group : III  
 Classification Code : T2  
 Hazard Identification Number : 60  
 Labels : 6.1

**IMDG**

Packing group : III  
 Labels : 6.1  
 EmS Code : F-A, S-A

**IATA (Cargo)**

Packing instruction (cargo aircraft) : 677  
 Packing instruction (LQ) : Y645  
 Packing group : III  
 Labels : Toxic

**IATA (Passenger)**

Packing instruction (passenger aircraft) : 670  
 Packing instruction (LQ) : Y645  
 Packing group : III  
 Labels : Toxic

**14.5 Environmental hazards****ADN**

Environmentally hazardous : yes

**ADR**

Environmentally hazardous : yes

**RID**

Environmentally hazardous : yes

**IMDG**

Marine pollutant : yes

**14.6 Special precautions for user**

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

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

Remarks : Not applicable for product as supplied.

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

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
4.0	18.09.2023	1204433-00018	Date of first issue: 09.01.2017

### SECTION 15: Regulatory information

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

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

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

#### 15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

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

#### Full text of H-Statements

H301	:	Toxic if swallowed.
H302	:	Harmful if swallowed.
H311	:	Toxic in contact with skin.
H312	:	Harmful in contact with skin.
H315	:	Causes skin irritation.
H319	:	Causes serious eye irritation.
H330	:	Fatal if inhaled.
H370	:	Causes damage to organs.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.

#### Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Eye Irrit.	:	Eye irritation
Skin Irrit.	:	Skin irritation
STOT SE	:	Specific target organ toxicity - single exposure
ZA OEL	:	South Africa. The Regulations for Hazardous Chemical Agents, Occupational Exposure Limits
ZA OEL / OEL-RL	:	Occupational Exposure Limit Restricted limit - 8- hour exposure or equivalent (12 hour shifts)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA -

## Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
4.0	18.09.2023	1204433-00018	Date of first issue: 09.01.2017

European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; 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

### Further information

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

#### Classification of the mixture:

Acute Tox. 4	H302
Acute Tox. 3	H331
Skin Irrit. 2	H315
Eye Irrit. 2	H319
STOT SE 1	H370
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

#### Classification procedure:

Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method

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

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.

# SAFETY DATA SHEET



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

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
4.0	18.09.2023	1204433-00018	Date of first issue: 09.01.2017

---

Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

ZA / EN