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: 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

2. HAZARDS IDENTIFICATION

Emergency Overview

<table>
<thead>
<tr>
<th>Appearance</th>
<th>solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour</td>
<td>characteristic</td>
</tr>
</tbody>
</table>

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 |
| Short-term (acute) aquatic hazard | Category 1 |
| Long-term (chronic) aquatic hazard | Category 1 |
SAFETY DATA SHEET
according to GB/T 16483 and GB/T 17519

Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

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:
P405 Store locked up.

Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.
**SAFETY DATA SHEET**

according to GB/T 16483 and GB/T 17519

**Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation**

Version 2.5  Revision Date: 2020/03/23  SDS Number: 1204410-00009  Date of last issue: 2019/09/13  Date of first issue: 2017/01/09

3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substance / Mixture**: Mixture

<table>
<thead>
<tr>
<th>Components</th>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>polyvinyl chloride</td>
<td>9002-86-2</td>
<td>&gt;= 70 - &lt; 90</td>
<td></td>
</tr>
<tr>
<td>Pirimiphos-methyl (ISO)</td>
<td>29232-93-7</td>
<td>&gt;= 10 - &lt; 20</td>
<td></td>
</tr>
<tr>
<td>lambda-cyhalothrin (ISO)</td>
<td>91465-08-6</td>
<td>&gt;= 2.5 - &lt; 10</td>
<td></td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>13463-67-7</td>
<td>&gt;= 0.1 - &lt; 1</td>
<td></td>
</tr>
</tbody>
</table>

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 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**
- Harmful if swallowed.
- May be harmful in contact with skin.
SAFETY DATA SHEET
according to GB/T 16483 and GB/T 17519

Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

Version: 2.5  Revision Date: 2020/03/23  SDS Number: 1204410-00009  Date of last issue: 2019/09/13  Date of first issue: 2017/01/09

4 / 20

delayed

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.

5. FIREFIGHTING MEASURES

Suitable extinguishing media

Water spray
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media

None known.

Specific hazards during firefighting

Exposure to combustion products may be a hazard to health.

Hazardous combustion products

Carbon oxides
Nitrogen oxides (NOx)
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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment.
Follow safe handling advice and personal protective equipment recommendations.

Environmental precautions

Discharge into the environment must be avoided.
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

Sweep up or vacuum up spillage and collect in suitable container for disposal.
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.
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 swallow. Do not get in eyes. Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment. Keep container tightly closed. 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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>polyvinyl chloride</td>
<td>9002-86-2</td>
<td>PC-TWA (Total dust)</td>
<td>5 mg/m³</td>
<td>GBZ 2.1-2007</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable particulate matter)</td>
<td>1 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Pirimiphos-methyl (ISO)</td>
<td>29232-93-7</td>
<td>TWA</td>
<td>60 µg/m³ (OEB 3)</td>
<td>Internal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Further information: Skin</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wipe limit 600 µg/100 cm²</td>
<td>Internal</td>
<td></td>
</tr>
<tr>
<td>lambda-cyhalothrin (ISO)</td>
<td>91465-08-6</td>
<td>TWA</td>
<td>5 µg/m³ (OEB 4)</td>
<td>Internal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Further information: Skin</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wipe limit 50 µg/100 cm²</td>
<td>Internal</td>
<td></td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>13463-67-7</td>
<td>PC-TWA (Total dust)</td>
<td>8 mg/m³</td>
<td>GBZ 2.1-2007</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>ACGIH</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET
according to GB/T 16483 and GB/T 17519

Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

Version 2.5 | Revision Date: 2020/03/23 | SDS Number: 1204410-00009 | Date of last issue: 2019/09/13
| | | | Date of first issue: 2017/01/09

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 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
Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

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
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

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.

11. TOXICOLOGICAL INFORMATION

Exposure routes: 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
LD50 (Rat): > 4,592 mg/kg

lambda-cyhalothrin (ISO):
Acute oral toxicity: LD50 (Rat): 56 - 79 mg/kg
Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

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
Result: Mild eye irritation

Lambda-cyhalothrin (ISO):
Species: Rabbit
SAFETY DATA SHEET
according to GB/T 16483 and GB/T 17519

Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

Result : Mild eye irritation

Titanium dioxide:
Species : Rabbit
Result : No eye irritation

Respiratory or skin sensitisation

Skin sensitisation
Not classified based on available information.

Respiratory sensitisation
Not classified based on available information.

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
Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date:</th>
<th>SDS Number:</th>
<th>Date of last issue:</th>
<th>Date of first issue:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td>2020/03/23</td>
<td>1204410-00009</td>
<td>2019/09/13</td>
<td>2017/01/09</td>
</tr>
</tbody>
</table>

**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):**

<table>
<thead>
<tr>
<th>Species</th>
<th>Application Route</th>
<th>Exposure time</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rat</td>
<td>Oral</td>
<td>2 Years</td>
<td>negative</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Species</th>
<th>Application Route</th>
<th>Exposure time</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mouse</td>
<td>Oral</td>
<td>80 weeks</td>
<td>negative</td>
</tr>
</tbody>
</table>

**Carcinogenicity - Assessment:**

Animal testing did not show any carcinogenic effects.
Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

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
Remarks: Maternal toxicity observed.
Pirimiphos / Lambda-Cyhalothrin Formulation

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

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.
### 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
- **NOAEL:** 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
Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date:</th>
<th>SDS Number:</th>
<th>Date of last issue:</th>
<th>Date of first issue:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td>2020/03/23</td>
<td>1204410-00009</td>
<td>2019/09/13</td>
<td>2017/01/09</td>
</tr>
</tbody>
</table>

**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/m3  
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, Headache, Weakness, stomach discomfort, Blurred vision, muscle twitching

**lambda-cyhalothrin (ISO)**:
Ingestion: Symptoms: Gastrointestinal disturbance

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
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 (Pseudokircheriella 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
SAFETY DATA SHEET
according to GB/T 16483 and GB/T 17519

Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

Version 2.5  Revision Date: 2020/03/23  SDS Number: 1204410-00009  Date of last issue: 2019/09/13  Date of first issue: 2017/01/09

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):

<table>
<thead>
<tr>
<th>Component</th>
<th>NOEC (Daphnia magna (Water flea))</th>
<th>Expiration time</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pirimiphos-methyl (ISO)</td>
<td>0.0035 µg/l</td>
<td>21 d</td>
<td>OECD Test Guideline 211</td>
<td>Based on data from similar materials</td>
</tr>
<tr>
<td>lambda-cyhalothrin (ISO)</td>
<td></td>
<td></td>
<td>OECD Test Guideline 211</td>
<td></td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td></td>
<td></td>
<td>OECD Test Guideline 305</td>
<td></td>
</tr>
</tbody>
</table>

Titanium dioxide:

Toxicity to fish:

<table>
<thead>
<tr>
<th>Component</th>
<th>LC50 (Oncorhynchus mykiss (rainbow trout))</th>
<th>Expiration time</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&gt; 100 mg/l</td>
<td>96 h</td>
<td>OECD Test Guideline 203</td>
<td></td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Persistence and degradability

Biodegradability:

<table>
<thead>
<tr>
<th>Component</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>polyvinyl chloride:</td>
<td>Not readily biodegradable.</td>
</tr>
</tbody>
</table>

Pirimiphos-methyl (ISO):

Stability in water:

<table>
<thead>
<tr>
<th>Component</th>
<th>Hydrolysis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>50 %(117 d)</td>
</tr>
</tbody>
</table>

Bioaccumulative potential

Components:

Pirimiphos-methyl (ISO):

Partition coefficient: n-octanol/water:

<table>
<thead>
<tr>
<th>Component</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4.2</td>
</tr>
</tbody>
</table>

lambda-cyhalothrin (ISO):

Bioaccumulation:

<table>
<thead>
<tr>
<th>Component</th>
<th>Bioconcentration factor (BCF)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2,240</td>
</tr>
</tbody>
</table>

Partition coefficient: n-octanol/water:

<table>
<thead>
<tr>
<th>Component</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7.0 (20 °C)</td>
</tr>
</tbody>
</table>
Mobility in soil

Components:

**lambda-cyhalothrin (ISO):**
Distribution among environmental compartments: log Koc: 5.5

Other adverse effects
No data available

13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues: 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.

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

**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.

National Regulations

GB 6944/12268
UN number : UN 2811
Proper shipping name : TOXIC SOLID, ORGANIC, N.O.S.
(lambda-cyhalothrin (ISO), Pirimiphos-methyl (ISO))
Class : 6.1
Packing group : III
Labels : 6.1

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

15. REGULATORY INFORMATION

National regulatory information
Law on the Prevention and Control of Occupational Diseases

The components of this product are reported in the following inventories:
AICS : not determined
DSL : not determined
IECSC : not determined

16. OTHER INFORMATION

Further information

Date format : yyyy/mm/dd

Full text of other abbreviations
ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH / TWA : 8-hour, time-weighted average
GBZ 2.1-2007 / PC-TWA : Permissible concentration - time weighted average

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR -
SAFETY DATA SHEET
according to GB/T 16483 and GB/T 17519

Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

Version 2.5  Revision Date: 2020/03/23  SDS Number: 1204410-00009  Date of last issue: 2019/09/13  Date of first issue: 2017/01/09

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; 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.

CN / EN