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

1.3 Details of the supplier of the safety data sheet
   Company : MSD
   Shotton Lane
   NE23 3JU Cramlington NU - Great Britain
   Telephone : 44 1 670 59 30 00
   Telefax : 908-735-1496
   E-mail address of person responsible for the SDS : EHSDATASTEWARDS@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)
   Hazard pictograms : ☠️ ☑️ ☐️
Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

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
None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Registration number</th>
<th>Classification</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pirimiphos-methyl (ISO)</td>
<td>29232-93-7</td>
<td>249-528-5</td>
<td>015-134-00-5</td>
<td></td>
<td>Acute Tox.4; H302 Acute Tox.4; H312 Skin Irrit.2; H315 Eye Irrit.2; H319 STOT SE1; H370 Aquatic Acute1; H400 Aquatic Chronic1; H410</td>
<td>&gt;= 10 - &lt; 20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>M-Factor (Acute aquatic toxicity):</td>
<td></td>
</tr>
</tbody>
</table>
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.
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 (CO2)
                                Dry chemical

Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

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

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 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.
SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions

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

6.2 Environmental precautions

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.

6.3 Methods and material for containment and cleaning up

Methods for 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.

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 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.

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
Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

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
- 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

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<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></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wipe limit</td>
<td>600 µg/100 cm²</td>
<td>Internal</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></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wipe limit</td>
<td>50 µg/100 cm²</td>
<td>Internal</td>
</tr>
</tbody>
</table>

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 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
Hand protection

Material: Chemical-resistant gloves
Remarks: Consider double gloving.

Skin and body protection
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.
Equipment should conform to NS EN 143

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
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.

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:**

<table>
<thead>
<tr>
<th>Toxicity Type</th>
<th>Description</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td>Acute toxicity estimate: 654,55 mg/kg</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Acute inhalation toxicity</td>
<td>Acute toxicity estimate: 0.7676 mg/l</td>
<td>Calculation method; Exposure time: 4 h</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Test atmosphere: dust/mist</td>
</tr>
<tr>
<td>Acute dermal toxicity</td>
<td>Acute toxicity estimate: &gt; 2.000 mg/kg</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

**Components:**

**Pirimiphos-methyl (ISO):**

<table>
<thead>
<tr>
<th>Toxicity Type</th>
<th>Description</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td>LD50 (Rat): 1.180 mg/kg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LD50 (Rat): 2.400 - 5.976 mg/kg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LD50 (Mouse): &gt; 575 mg/kg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LD50 (Dog): &gt; 1.500 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Acute inhalation toxicity</td>
<td>LC50 (Rat): &gt; 5.04 mg/l</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exposure time: 4 h</td>
<td></td>
</tr>
<tr>
<td>Acute dermal toxicity</td>
<td>LD50 (Rabbit): 2.000 mg/kg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LD50 (Rat): &gt; 4.592 mg/kg</td>
<td></td>
</tr>
</tbody>
</table>

**Lambda-cyhalothrin (ISO):**

<table>
<thead>
<tr>
<th>Toxicity Type</th>
<th>Description</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td>LD50 (Rat): 56 - 79 mg/kg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LD50 (Mouse): 20 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Acute inhalation toxicity</td>
<td>LC50 (Rat): 0.06 mg/l</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exposure time: 4 h</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Test atmosphere: dust/mist</td>
<td></td>
</tr>
<tr>
<td>Acute dermal toxicity</td>
<td>LD50 (Rat): 632 - 696 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Acute toxicity (other routes of administration)</td>
<td>LD50 (Rat): 250 - 750 mg/kg</td>
<td>Application Route: Intraperitoneal</td>
</tr>
</tbody>
</table>
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.

**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.

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.

### 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.

Repeated dose toxicity

Components:

Pirimiphos-methyl (ISO):
Species: Rat  
NOAEL: 0.5 mg/kg  
LOAEL: 2.5 mg/kg  
Application Route: Oral
Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

Version: 3.3
Revision Date: 23.03.2020
SDS Number: 1204541-00010
Date of last issue: 13.09.2019
Date of first issue: 09.01.2017

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
Remarks: No significant adverse effects were reported

Species: Rat
NOAEL: 25 mg/kg
Application Route: Oral
Exposure time: 90 d
Target Organs: Central nervous system
Symptoms: cholinesterase inhibition

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
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
Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

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

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 tox-): 1.000
Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

Version 3.3  Revision Date: 23.03.2020  SDS Number: 1204541-00010  Date of last issue: 13.09.2019  Date of first issue: 09.01.2017

12.2 Persistence and degradability

Components:

Pirimiphos-methyl (ISO):

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 (Onchorhynchus 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
12.3 Bioaccumulative potential

Components:

Pirimiphos-methyl (ISO):
Partition coefficient: n-octanol/water: \( \log \text{Pow}: 4.2 \)

lambda-cyhalothrin (ISO):
Bioaccumulation: Bioconcentration factor (BCF): 2.240
Method: OECD Test Guideline 305

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

12.4 Mobility in soil

Components:

lambda-cyhalothrin (ISO):
Distribution among environmental compartments: \( \log \text{Koc}: 5.5 \)

12.5 Results of PBT and vPvB assessment
Not relevant

12.6 Other adverse effects
No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product: Dispose of in accordance with local regulations. 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.

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.  
(lamda-cyhalothrin (ISO), Pirimiphos-methyl (ISO))

**ADR**
: TOXIC SOLID, ORGANIC, N.O.S.  
(lamda-cyhalothrin (ISO), Pirimiphos-methyl (ISO))

**RID**
: TOXIC SOLID, ORGANIC, N.O.S.  
(lamda-cyhalothrin (ISO), Pirimiphos-methyl (ISO))

**IMDG**
: TOXIC SOLID, ORGANIC, N.O.S.  
(lamda-cyhalothrin (ISO), Pirimiphos-methyl (ISO))

**IATA**
: Toxic solid, organic, n.o.s.  
(lamda-cyhalothrin (ISO), Pirimiphos-methyl (ISO))

### 14.3 Transport hazard class(es)

**ADN**
: 6.1

**ADR**
: 6.1

**RID**
: 6.1

**IMDG**
: 6.1

**IATA**
: 6.1

### 14.4 Packing group

**ADN**

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

**ADR**

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

**RID**

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

**IMDG**

Packaging group : III  
Labels : 6.1

**IATA (Cargo)**

Packaging instruction (cargo aircraft) : 677
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

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

Environmental hazards

ADN
Environmentally hazardous : yes

ADR
Environmentally hazardous : yes

RID
Environmentally hazardous : yes

IMDG
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.

Transport in bulk according to Annex II of Marpol and the IBC Code
Remarks : Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Not applicable
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable
REACH - List of substances subject to authorisation (Annex XIV) : Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable
Pirimiphos-Methyl / Lambda-Cyhalothrin Formulation

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

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regula-
Further information

Classification of the mixture:

<table>
<thead>
<tr>
<th>Classification</th>
<th>HXXX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Tox. 4</td>
<td>H302</td>
</tr>
<tr>
<td>Acute Tox. 3</td>
<td>H331</td>
</tr>
<tr>
<td>Skin Irrit. 2</td>
<td>H315</td>
</tr>
<tr>
<td>Eye Irrit. 2</td>
<td>H319</td>
</tr>
<tr>
<td>STOT SE 1</td>
<td>H370</td>
</tr>
<tr>
<td>Aquatic Acute 1</td>
<td>H400</td>
</tr>
<tr>
<td>Aquatic Chronic</td>
<td>H410</td>
</tr>
</tbody>
</table>

Classification procedure:
- Acute Tox. 4: Calculation method
- Acute Tox. 3: Calculation method
- Skin Irrit. 2: Calculation method
- Eye Irrit. 2: Calculation method
- STOT SE 1: Calculation method
- Aquatic Acute 1: Calculation method
- Aquatic Chronic: Calculation method

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 mate-
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.

NO / EN