

Material Safety Data Sheet

1 - Product Information

Product Name: lambda-cyhalothrin 50g/kg WP

Chemical name: [1□(S*),3□(Z)]-(?-cyano(3-phenoxyphenyl)methyl
3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylate

Producer: Nanjing Essence Fine-Chemical Co., Ltd

2 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT

May cause sensitization by skin contact.

Harmful: danger of serious damage to health by prolonged exposure if swallowed. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

3 - Composition/Information on Ingredients

Product Name: lambda-cyhalothrin

CAS # : 91465-08-6

Content: 50

Formula: C₂₃H₁₉ClF₃NO₃

Molecular Weight :449.9

4 - First Aid Measures

AFTER INHALATION

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

AFTER SKIN CONTACT

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

AFTER EYE CONTACT

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician

5 - Fire Fighting Measures

SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6 - Accidental Release Measures

PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves. **METHODS FOR CLEANING UP**

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

7 - Handling and Storage**HANDLING**

Directions for Safe Handling: Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep tightly closed.

8 - Exposure Controls / Personal Protection**ENGINEERING CONTROLS**

Safety shower and eye bath. Mechanical exhaust required.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

Appearance Physical State: Colorless powder

M.p. 49.2 °C; (tech., 47.5-48.5 °C)

B.p. Does not boil at atmospheric pressure

V.p. 2×10^{-4} mPa (20 °C, est.); 2×10^{-1} mPa (60 °C, interpolated)

KOW logP = 7 (20 °C)

Henry 2×10^{-2} Pa m³ mol⁻¹

S.g./density 1.33 g/ml (25 °C)

Solubility In water 0.005 mg/l (20 °C). In acetone, methanol, toluene, hexane, ethyl acetate >500 g/l.

Stability Stable to light. Stable on storage for more than 6 months at 15-25 °C.

pKa >9 (hydrolysis prevents measurement)

F.p. 185 °C (tech., Pensky-Martens closed cup)

10 - Stability and Reactivity

Materials to Avoid: Strong acids, Strong bases, Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Nitrogen oxides, Hydrogen chloride gas.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

11 - Toxicological Information

Oral Acute oral LD₅₀ for male rats 79, female rats 56.

Skin and eye Acute percutaneous LD₅₀ for rats 632-696 mg/kg. Mild eye irritant; non-irritant to skin (rabbits). Not a skin sensitiser (guinea pigs).

Inhalation LC₅₀ (4 h) for rats 0.06 mg/l air (total particulate).

NOEL for dogs 0.5 mg/kg daily.

ADI 0.005 mg/kg.

Other Non-mutagenic in the Ames test.

12 - Ecological Information

Birds Acute oral LD₅₀ for mallard ducks >3950 mg/kg. Dietary LC₅₀ for quail >5300 mg/kg. No accumulation of residues in eggs or tissues.

Fish LC₅₀ (96 h) for bluegill sunfish 0.21, rainbow trout 0.36g/l.

Daphnia EC₅₀ (48 h) 0.36 g/l.

Algae ErC₅₀ (96 h) for *Selenastrum capricornutum* >1000g/l.

Other aquatic spp. Intrinsic toxicity to aquatic organisms is greatly reduced by rapid loss from the water by adsorption and degradation.

Bees LD₅₀ (oral) 38 ng/bee; (contact) 909 ng/bee.

Worms LC₅₀ for *Eisenia foetida* >1000 mg/kg soil.

Other beneficial spp. Toxic to some non-target arthropods. Effects under field conditions reduced, with rapid recovery.

SIGNS AND SYMPTOMS OF EXPOSURE

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.

Skin Absorption: Harmful if absorbed through skin.

Eye Contact: May cause eye irritation.

Inhalation: Harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion: Harmful if swallowed.

13 - Disposal Considerations

SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material.



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Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

14 - Transport Information

CLASS NO: N/A

UN NO: N/A

For and on behalf of

NANJING ESSENCE FINE-CHEMICAL CO.,LTD.

15 - Regulatory Information

N.A.

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Authorized Signatures