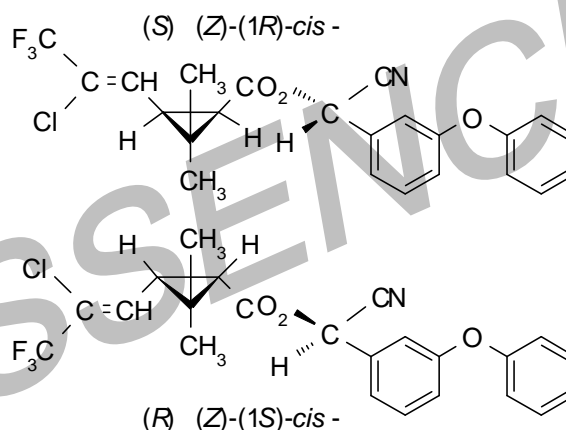


## Material Safety Data Sheet

**Product Name: Lambda-cyhalothrin Tech**

### SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

**Product Name:** Lambda-cyhalothrin Tech  
**CAS:** 91465-08-6  
**Molecular Weight:** 449.9  
**Chemical Name:** 3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylate oxylate  
**Chemical Formulation:** C<sub>23</sub>H<sub>19</sub>ClF<sub>3</sub>NO<sub>3</sub>  
**Chemical Structure:**



**Uses:** Control of a wide spectrum of insect pests, e.g. aphids, Colorado beetles, thrips, Lepidoptera larvae, Coleoptera larvae and adults, etc., in cereals, hops, ornamentals, potatoes, vegetables, cotton, and other crops. Provides good control of insect-borne plant viruses. Also used for control of insect pests in public health.

**Manufacturer:** Nanjing Essence Fine-Chemical Co., Ltd  
**Address:** 9th Floor, Nanhu Road 58#, Nanjing, China  
**Telephone Number:** +86 25 86518999  
**Fax Number:** +86 25 86455985  
**Website:** www.essencechem.com

### SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

| <u>Hazardous Component Name</u> | <u>CAS-No.</u> | <u>Average by Weight</u> |
|---------------------------------|----------------|--------------------------|
| Lambda-cyhalothrin              | 91465-08-6     | 95%                      |

### SECTION 3. HAZARDS IDENTIFICATION

|                      |   |
|----------------------|---|
| <b>Eye Contact:</b>  | Result in irritant.   |
| <b>Skin Contact:</b> | Contact with skin may result in irritation. The component lambda-cyhalothrin can be absorbed through the skin. Effects of significant exposure may include those described for ingestion. May cause tingling, burning, itching or numbness in exposed areas, that can last up to 36 hours.  |
| <b>Inhalation:</b>   | Inhalation of dust may result in respiratory irritation.  |
| <b>Swallowing:</b>   | Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain, ataxia, unsteady gait, hyperexcitability, salivation, tremors and incontinence. Large doses may cause convulsions and loss of consciousness. If the victim is uncoordinated there is greater likelihood of vomit entering the lungs and causing subsequent complications. |

### SECTION 4. FIRST AID MEASURES

|                      |   |
|----------------------|---|
| <b>Eye Contact:</b>  | Flush eyes with plenty of water for 15 minutes holding eyelids open if necessary. Seek medical assistance.  |
| <b>Skin Contact:</b> | Immediately flush body and clothes with large amounts of water. Remove contaminated clothing and footwear. Lambda-cyhalothrin can be absorbed through the skin with resultant toxic effects.. Wash affected areas with soap and water. Seek immediate medical advice. |
| <b>Inhalation:</b>   | Remove patient to fresh air. Lay down and keep warm and rested. If breathing is shallow or has stopped ensure airway is clear and apply resuscitation. Seek medical assistance immediately.   |
| <b>Swallowing:</b>   | Never give anything by mouth to an unconscious person. If swallowed do NOT induce vomiting. For advice, contact the National Poisons Centre (0800 764 766). Seek medical assistance immediately.  |

### SECTION 5. FIRE FIGHTING MEASURES

|                                    |   |
|------------------------------------|---|
| <b>Fire Fighting Instructions:</b> | Wear full protective clothing and self-contained breathing apparatus.                                   |
| <b>Extinguish Media:</b>           | Extinguishing media: Water fog, fine water spray, foam dry agent (carbon dioxide, dry chemical powder). |

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

**Safety:** Wear protective clothing. Clear area of unprotected personnel. Eliminate all ignition sources and naked lights. Use non-sparking utensils.

**Clean-up Procedure:** Sweep or vacuum up solids without generating dust. Dampen down with minimum water spray. Contain liquid spills and absorb with sand, soil or absorbent granules. Do not allow product or washings to enter the waterways or sewer. If spill does enter waterways contact the local authority. Collect in an appropriate sealable labeled container for disposal in an approved landfill.

**SECTION 7. HANDLING AND STORAGE**

**Handling:** Avoid contact with eyes, prolonged contact with skin, and inhalation of dust and mist. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

**Storage:** Store the material in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area. Store this product away from heat, sparks and other sources of ignitions.

**SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Engineering Controls:** Ensure ventilation is adequate and that air concentrations of components are controlled below recommended hygiene standard. Use with local exhaust ventilation or while wearing dust mask. Keep containers closed when not in use. Facilities storing or utilising this material should be equipped with an eyewash facility and safety.

**Personal Protection:** Wear overalls, safety boots, safety goggles, gloves and NIOSH approved half mask respirator with organic vapour cartridge + dust/mist prefilters. Wash protective clothing before storage or reuse. Wash thoroughly after handling and before eating, drinking or smoking.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

|                            |  |
|----------------------------|--|
| <b>Appearance:</b>         | White powder   |
| <b>Content:</b>            | 95%  |
| <b>M.p.:</b>               | 49.2°C   |
| <b>B.p.:</b>               | Does not boil at atmospheric pressure.                 |
| <b>V.p.:</b>               | $2 \times 10^{-4}$ mPa                                 |
| <b>K<sub>OW</sub> logP</b> | 7 (20 °C)  |
| <b>Henry:</b>              | $2 \times 10^{-2}$ Pa m <sup>3</sup> mol <sup>-1</sup> |

## SECTION 10. STABILITY AND REACTIVITY

|                    |  |
|--------------------|--|
| <b>Stability:</b>  | Combustible solid.   |
| <b>Reactivity:</b> | In common with many organic chemicals, may form flammable dust clouds in air. May react with oxidizing agents.<br>Product is stable for at least 2 years under ambient storage conditions. |

## SECTION 11. TOXICOLOGICAL INFORMATION

|                      |  |
|----------------------|--|
| <b>Oral:</b>         | Acute oral LD <sub>50</sub> (rat) 56-79mg/kg 19 – 31mg/kg (mice)   |
| <b>Dermal:</b>       | Acute dermal LD <sub>50</sub> (rat) 632 – 696mg/kg   |
| <b>Inhalation:</b>   | Inhalation LC <sub>50</sub> (rat) 0.06mg/L/4hr (total particulate)   |
| <b>Reproductive:</b> | A three-generation reproductive study in rats fed 0, 10, 30 or 100mg/kg, revealed minor reproductive effects at the highest dose only (reduction in litter sizes and in weight gain of the pups) |

## SECTION 12. ECOLOGICAL INFORMATION

|                              |  |
|------------------------------|--|
| <b>Aquatic Toxicity:</b>     | LC <sub>50</sub> (96h) Rainbow trout 0.36ug/L<br>LC <sub>50</sub> (96h) Bluegill sunfish 0.21ug/L<br>LC <sub>50</sub> (96h) Sheephead minnow 0.81ug/L<br>EC <sub>50</sub> (48h) Daphnia magna 0.36ug/l |
| <b>Terrestrial Toxicity:</b> | Oral LD <sub>50</sub> Mallard duck >3950mg/kg<br>Dietary LC <sub>50</sub> Bobwhite quail >7530mg/kg/3d<br>Oral LD <sub>50</sub> Bees 38ng/bee<br>Dermal LD <sub>50</sub> Bees 909ng/bee                |
| <b>Environmental Fate:</b>   | Lambda-cyhalothrin, in common with other synthetic pyrethroids has a high Log Pow. However, since the compound is insoluble in water (thus limiting exposures to                                       |

aquatic species) and is rapidly metabolised in animal systems the risk of bioaccumulation in an aquatic species is low. Leaching into ground water through a range of soil types is negligible. In soil it reportedly has a half life of up to 12 weeks.

### SECTION 13. DISPOSAL CONSIDERATIONS

**Product Disposal:** To avoid disposal all attempts should be made to utilise the product completely in accordance with its registered use. Dilute unusable product according to the label and pour onto fallow land. Prevent the product from entering natural water sources.

**Container Disposal:** Ensure container is completely empty. Burn empty container if wind direction permits. Otherwise bury in landfill.

### SECTION 14. TRANSPORT INFORMATION

**Road transportation:** Environmentally Hazardous Substance, Solid, N.O.S. (lambda-cyhalothrin)  
UN#3077 Hazchem 2Z  
Class 9 Packaging Group III

**Sea transportation:** Environmentally Hazardous Substance, Solid, N.O.S. (lambda-cyhalothrin)  
UN#3077 IMDG code page 150  
Class 9 Packaging Group III

### SECTION 15. REGULATORY INFORMATION

Not available