

## MATERIAL SAFETY DATA SHEET

### 1. Product and Company Identification

**Product Name** : Lambda Cyhalothrin 97% TC  
**Chemical Name** : (R)-cyano(3-phenoxyphenyl)methyl(1S,3S) chloro-3,3,3-trifluoro-1-propenyl]-2,2-dimethylcyclopropanecarboxylate  
**Type** : Insecticide  
**Molecular formula** : C<sub>23</sub>H<sub>19</sub>ClF<sub>3</sub>NO<sub>3</sub>

### 2. Composition/Information on ingredients

Chemical Name	CAS#	Percent or content(w/v)
Lambda-cyhalothrin	91465-08-6	97.0
Other ingredients	-	3.0

### 3. Health Hazards Identification

Symptoms of acute exposure: May cause mild eye and skin irritation. Toxic if swallowed or absorbed through the skin. Exposure to high vapor levels may cause headache, dizziness, numbness, nausea, incoordination, or other central nervous system effects.

May cause temporary itching, tingling, burning or numbness of exposed skin, called paresthesia.

Hazardous decomposition products: can decompose at high temperatures forming toxic gases..

### 4. First Aid Measures

In case of poisoning by any exposure route contact a doctor or Poisons Information Center.

**Eye:** If product gets in eyes wash it out immediately with copious quantities of water for 15 minutes. Seek medical advice.

**Skin:** If skin contact occurs remove contaminated clothing and wash affected areas thoroughly with soap and water. Wash contaminated clothing before re-use. The active ingredient may be absorbed through the skin with resultant toxic effects. Seek immediate medical advice.

**Inhaled:** Move person to fresh air and keep at rest until recovered. Remove any contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. If breathing labored and patient cyanotic (blue) ensure airways are clear and have qualified person give oxygen through a face mask.

If breathing has stopped, apply artificial respiration at once. In event of cardiac arrest, apply external cardiac massage. Seek medical attention.

**Swallowed:** Rinse mouth with water and give water to drink. Do not induce vomiting. Seek immediate medical assistance.

**Advice to doctor:** No specific antidote exists. Treat symptomatically

#### 5. Fire Fighting Measures

**Unusual Fire, Explosion and Reactivity Hazards:** During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

**In Case of Fire:** Use dry chemical, foam or CO<sub>2</sub> extinguishing media. Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion.

Prevent use of contaminated buildings, area, and equipment until decontaminated. Water runoff can cause environmental damage. If water is used to fight fire, dike and collect runoff.

#### 6. Accidental Release Measures

**In Case of Spill or Leak:** Control the spill at its source. Contain the spill to prevent it from spreading, contaminating soil, or entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Section 8. If a solid, sweep up material and place in a compatible disposal container. If a liquid, cover entire

spill with absorbing material and place into compatible disposal container. Scrub area with hard water detergent (e.g. commercial products such as Tide, Joy, Spic and Span). Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposition.

#### 7. Handling and Storage

Store in cool, clean, ventilated, fireproof storage area. Keep away from heat, spark, openflame and incompatible materials. (Strong oxidizing agents). Protect containers against physical damage.

#### 8. Exposure Controls/Personal Protection

**Ventilation:** No special ventilation requirements are normally necessary for this product.

However make sure that the work environment remains clean and that dusts and vapours are minimized.

**Eye Protection:** Eye protection such as protective glasses or goggles is recommended when product is being used.

**Skin Protection:** Prevent skin contact by wearing impervious gloves, clothes and, preferably, apron. Make sure that all skin areas are covered. See below for suitable material types.

**Protective Material Types:** We suggest that protective clothing be made from rubber, PVC.

**Respirator:** Usually, no respirator is necessary when using this product. Safety deluge showers should be provided near to where this product is being used.

## 9. Physical and Chemical Properties

<b>Appearance:</b>	White or light yellow solid powder
<b>Melting Point:</b>	49.2 °C
<b>Boiling Point:</b>	187-190°C
<b>Density:</b>	1.33g/cm <sup>3</sup> at 25°C
<b>Solubility:</b>	0.005 mg/L at 20°C in the water
<b>Solubility in Solvents:</b>	Acetone, methanol, toluene, hexane.
<b>Vapor Pressure:</b>	2.67×10 <sup>-10</sup> Pa at 20°C

## 10. Stability and Reactivity

<b>Stability:</b>	Stable under standard conditions.
<b>Hazardous Polymerization:</b>	Will not occur.
<b>Conditions to Avoid:</b>	None known.

## 11. Toxicological Information

Acute oral LD50 for male rats 79, female rats 56, mice 20 mg/kg.

Acute dermal LD50 for rats 632-696 mg/kg

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

Moderate eye irritant (rabbits).

Not skin irritant (rabbits).

## 12. Ecological Information

**Effects on Birds:** Lambda cyhalothrin's toxicity to birds ranges from slightly toxic to practically non-toxic. In the mallard duck, the reported oral LD50 is greater than 3,950 mg/kg, and the reported dietary LC50 is 3,948 ppm. In bobwhite quail the reported dietary LC50 is greater than 500 ppm. There is evidence that it does not accumulate in the eggs or tissues of birds.

**Effects on Aquatic Organisms:** Lambda cyhalothrin is very highly toxic to many fish and aquatic invertebrate species. Reported LC50s in these species are as follows: bluegill sunfish, 0.21 ug/L; rainbow trout, 0.24 ug/L;

Daphnia magna, 0.36 ug/L; mysid shrimp, 4.9 ng/L; sheeps head minnow, 0.807 ng/L. A median effect concentration, EC50 (i.e. the concentration at which the effect occurs in 50% of the test population), for the eastern oyster of 0.59 ng/L has been reported.

Bio concentration is possible in aquatic species, but bioaccumulation is not likely. Bio concentration in channel catfish has been reported as minimal, with rapid depuration (elimination). A bio concentration factor of 858 has been reported in fish, species unspecified), but concentration was confined to non-edible tissues and rapid depuration was observed.

Effects on Other Animals (Non target species): Lambda cyhalothrin is highly toxic to bees, with a reported oral LD50 of 38 ng/bee and reported contact LD50 of 909 ng/bee (0.9ug/bee).

### 13. Disposal Considerations

**Waste:** Pesticide wastes are toxic and hazardous. Dispose of in accordance with applicable and local laws and regulations. Do not discharge or pour into soil, drainage system or bodies of water.

**Container:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or if allowed by state and local authorities, by burning (plastic containers). If burned, stay out of smoke.

### 14. Transport Information

Product Name	:	PYPETHROID PESTICIDE, SOLID, TOXIC - (Lambda cyhalothrin TC)
UN No.	:	3349
UN Hazard Class	:	6.1
UN Packing Group	:	III
Marine Pollutant status	:	YES
EMS	:	F-A, S-A

### 15. Regulatory Information

Not applicable.

#### **16. Other Information**

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith and believed to be correct. This information applies to the product as such. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produces formulations containing this product, it is the recipient's sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.