



## MATERIAL SAFETY DATA SHEET

### Manufacturer/information service:

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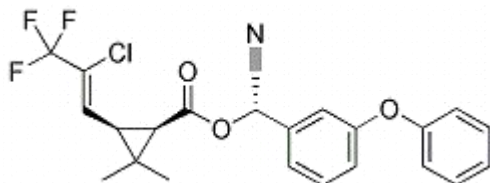
### 1. Chemical Product Identification

Product Name: Lambda-cyhalothrin 95% TC

Molecular Formula: C<sub>23</sub>H<sub>19</sub>ClF<sub>3</sub>NO<sub>3</sub>

Molecular Weight: 449.85 g/mol

Structural Formula:



Chemical Name (IUPAC): (R)-α-cyano-3-phenoxybenzyl (1S)-cis-3-[(Z)-2-chloro-3,3,3-trifluoropropenyl]-2,2-dimethylcyclopropanecarboxylate and (S)-α-cyano-3-phenoxybenzyl (1R)-cis-3-[(Z)-2-chloro-3,3,3-trifluoropropenyl]-2,2-dimethylcyclopropanecarboxylate

Form: Solid

CAS No.: 91465-08-6

### 2. Composition / Information On Ingredients

Composition	CAS No.	Content %
Lambda-cyhalothrin	91465-08-6	95.0
Other ingredients		5.0

### 3. 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, open flame 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 minimised.

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**

Appearance: White solid

Melting Point: 49.2 °C

Boiling Point: 187-190°C

Density: 1.33g/cm<sup>3</sup> at 25°C



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Solubility: 0.005 mg/L at 20°C in the water

Solubility in Other Solvents: acetone 250, methanol 250, toluene 500, hexane 500 (all in g/l at 20°C).

Vapor Pressure: 0.0002 mPa at 25°C

## 10. Stability and Reactivity

Stability: Stable under standard conditions.

Hazardous Polymerization: Will not occur.

Conditions to Avoid: None known.

## 11. Toxicological Information

Acute oral LD<sub>50</sub> for rats: 56 mg/kg.

Acute dermal LD<sub>50</sub> for rats: > 632 mg/kg

Inhalation LC<sub>50</sub> (4 h): 0.066 mg/l air (total particulate)

Eye irritation: Moderate irritation to eyes (rabbits).

Skin irritation: Non-irritating to skin (rabbits).

Skin sensitization: Non-sensitizer (guinea pigs).

## 12. Ecological and Ecotoxicological Information

Effect on birds: low toxicity to birds, acute oral LD<sub>50</sub> for *Colinus virginianus* >3950 mg/kg.

Effect on fish: high toxicity to fish, acute 96 hour LC<sub>50</sub> for sunfish is 0.00021 mg/L.

Effect on aquatic invertebrates: high toxicity to aquatic invertebrates, acute 48 hour EC<sub>50</sub> for *Daphnia magna* is 0.00036 mg/L.

Effect on algae: moderate toxicity to algae, acute 72 hour EC<sub>50</sub> for *Raphidocelis subcapitata* is >0.3 mg/L.

Effect on honeybees: high toxicity to honeybees, contact acute 48 hour LD<sub>50</sub> is 0.038 µg/bee; Oral acute 48 hour LD<sub>50</sub> is 0.91 µg/bee.

Effect on earthworms: moderate toxicity to earthworms, acute 14 day LC<sub>50</sub> for *Eisenia foetida* is >500 mg/kg.

## 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



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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

Not applicable

## 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 produce formulations containing this product, it is the recipients sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.