

**Syngenta Crop Protection, Inc.**  
**Post Office Box 18300**  
**Greensboro, NC 27419**

**In Case of Emergency, Call**  
**1-800-888-8372**

**1. PRODUCT IDENTIFICATION**

Product Name: **KARATE INSECTICIDE with ZEON TECHNOLOGY** Product No.: A12871A

EPA Signal Word: Warning

Active Ingredient(%): Lambda-Cyhalothrin Technical (22.8%) CAS No.: 91465-08-6

Chemical Name: [1a(S\*),3a(Z)]-cyano(3-phenoxyphenyl)methyl-3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylate

Chemical Class: A pyrethroid insecticide

EPA Registration Number(s): 100-1097 **Section(s) Revised: 2, 3, 4, 8, 12**

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

Material	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen
Naphthalene (<= 3%)	10 ppm TWA	10 ppm TWA (skin)	10 ppm TWA**	See "Toxicity", Sec. 11
Titanium Dioxide	15 mg/m <sup>3</sup> TWA (total)	10 mg/m <sup>3</sup> TWA	Not Established	IARC Group 3
Petroleum Solvent	Not Established	Not Established	100 mg/m <sup>3</sup> (15 ppm) TWA *	No
Lambda-Cyhalothrin Technical (22.8%)	Not Established	Not Established	0.04 mg/m <sup>3</sup> TWA (skin)***	No

\* recommended by manufacturer

\*\* recommended by NIOSH

\*\*\* Syngenta Occupational Exposure Limit (OEL)

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.  
 Syngenta Hazard Category: C, S

**3. HAZARDS IDENTIFICATION**
Symptoms of Acute Exposure

Harmful if inhaled or swallowed. Causes mild eye and skin irritation. May cause allergic skin reactions.  
 May cause temporary itching, tingling, burning or numbness of exposed skin, called paresthesia.  
 Exposure to high vapor levels may cause headache, dizziness, numbness, nausea, incoordination, or other central nervous system effects.

Hazardous Decomposition Products

Can decompose at high temperatures forming toxic gases.

Physical Properties

Appearance: Beige liquid  
 Odor: Not determined

Unusual Fire, Explosion and Reactivity Hazards

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

## 4. FIRST AID MEASURES

Have the product container, label or Material Safety Data Sheet with you when calling Syngenta (800-888-8372), a poison control center or doctor, or going for treatment.

- Ingestion: If swallowed: Call Syngenta (800-888-8372), a poison control center or doctor immediately for treatment advice. Do not give any liquid to the person. Do not induce vomiting unless told to do so after calling 800-888-8372 or by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
- Eye Contact: If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.
- Skin Contact: If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.
- Inhalation: If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call Syngenta (800-888-8372), a poison control center or doctor for further treatment advice.

### Notes to Physician

There is no specific antidote if this product is ingested.

Treat symptomatically.

Persons suffering a temporary allergic reaction may respond to treatment with antihistamines or steroid creams and/or systemic steroids.

Skin contact paresthesia effects (itching, tingling, burning or numbness) are transient, lasting up to 24 hours. Treat symptomatically.

Contains petroleum distillate - vomiting may cause aspiration pneumonia.

### Medical Condition Likely to be Aggravated by Exposure

None known.

## 5. FIRE FIGHTING MEASURES

### Fire and Explosion

- Flash Point (Test Method): Does not flash
- Flammable Limits (% in Air): Lower: % Not Applicable Upper: % Not Applicable
- Autoignition Temperature: Not Available
- Flammability: Not Applicable

### 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 from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Section 8. 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 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. 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.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION, PACKAGING AND USE OF THIS PRODUCT.

FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

- Ingestion: Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.
- Eye Contact: Where eye contact is likely, use chemical splash goggles.
- Skin Contact: Where contact is likely, wear chemical-resistant (such as nitrile or butyl) gloves, coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear. Stringent housekeeping measures are necessary to prevent translocation of the material from contaminated work surfaces to uncontaminated surfaces (railings, doors, etc.). Unprotected contact with such translocated material can result in paresthesia effects (see Section 11).
- Inhalation: A respirator is not normally required when handling this substance. Use effective engineering controls to comply with occupational exposure limits.

In case of emergency spills, use a NIOSH approved respirator with any R, P or HE filter.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance: Beige liquid
- Odor: Not determined
- Melting Point: Not Applicable
- Boiling Point: Not Available
- Specific Gravity/Density: 1.10 g/ml
- pH: 5.4

### Solubility in H<sub>2</sub>O

Lambda-Cyhalothrin Technical: 0.004 mg/l

### Vapor Pressure

Lambda-Cyhalothrin Technical: 1.5 x 10<sup>(-9)</sup> mmHg @ 68°F (20°C)

## 10. STABILITY AND REACTIVITY

- Stability: Stable under normal use and storage conditions.
- Hazardous Polymerization: Will not occur.
- Conditions to Avoid: None known.
- Materials to Avoid: None known.
- Hazardous Decomposition Products: Can decompose at high temperatures forming toxic gases.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity/Irritation Studies (Finished Product)

- Ingestion: Moderately Toxic  
Oral (LD50 Rat) : = 180 mg/kg body weight
- Dermal: Slightly Toxic  
Dermal (LD50 Rat) : > 2,000 mg/kg body weight
- Inhalation: Practically Non-Toxic  
Inhalation (LC50 Animal = 3.12 mg/l air - 4 hours  
Not Available) :
- Eye Contact: Mildly Irritating (Rabbit)
- Skin Contact: Mildly Irritating (Rabbit)
- Skin Sensitization: A mild skin sensitizer in animal tests.

### Reproductive/Developmental Effects

Lambda-Cyhalothrin Not a developmental or reproductive toxicant.

Technical:

### Chronic/Subchronic Toxicity Studies

Lambda-Cyhalothrin Reversible paresthesia (abnormal skin sensation).

Technical: Reversible clinical signs of neurotoxicity in mammals.

### Carcinogenicity

Lambda-Cyhalothrin No treatment-related tumors in rats or mice.

Technical:

### Other Toxicity Information

In humans, contact with exposed skin may result in temporary itching, tingling, burning or numbness, called paresthesia. The effect may result from splash, aerosol, or hot vapor contact, or transfer to the face from contaminated gloves and hands. The symptoms normally disappear within 24 hours. Face and genital areas are especially susceptible to this effect. Paresthesia involving the face is also known as "subjective facial sensation" or SFS.

### Toxicity of Other Components

Naphthalene (<= 3%)

Exposure to naphthalene can cause cataracts, liver damage, kidney failure, respiratory failure, hematuria, anemia, damage to red blood cells, leukocytosis, or coma.

Carcinogen Status:

NTP: Anticipated Carcinogen

IARC: Group 2B Possible Human Carcinogen

Petroleum Solvent

Inhalation of vapors at high concentrations can cause central nervous system effects (dizziness, headache), irritation to eyes or respiratory tract.

Titanium Dioxide

Titanium dioxide is listed as an IARC (Group 3) carcinogen not classifiable as human carcinogen (No Data Available) with limited animal evidence. Prolonged exposure causes respiratory irritation and may lead to pulmonary fibrosis.

### Target Organs

#### Active Ingredients

Lambda-Cyhalothrin Technical: Liver, nervous system

#### Inert Ingredients

Naphthalene: Eye, liver, kidney, respiratory tract, blood, CNS

Petroleum Solvent: Respiratory tract, stomach, liver, thyroid, urinary bladder, CNS, skin

Titanium Dioxide: Lung

## **12. ECOLOGICAL INFORMATION**

### Summary of Effects

Lambda-Cyhalothrin Technical:

Slightly toxic to birds. Highly toxic to fish, invertebrates and bees.

### Eco-Acute Toxicity

Lambda- Bees LC50/EC50 0.038 ug/bee

Cyhalothrin Invertebrates (Water Flea) LC50/EC50 0.00036 ppm

Technical: Fish (Trout) LC50/EC50 0.00024 ppm

Fish (Bluegill) LC50/EC50 0.00021 ppm

Birds (8-day dietary - Bobwhite Quail) LC50/EC50 > 5,300 ppm

Birds (8-day dietary - Mallard Duck) LC50/EC50 > 3,948 ppm

Eco-Chronic Toxicity

Lambda-Cyhalothrin Technical: Not available at this time.

Environmental Fate

Lambda-Cyhalothrin Technical:

The information presented here is for the active ingredient, lambda-cyhalothrin.  
Not persistent in soil or water. Immobile in soil. Sinks in water (after 24 h).

**13. DISPOSAL CONSIDERATIONS**

Disposal

Do not reuse product containers. Dispose of product containers, waste containers, and residues according to local, state, and federal health and environmental regulations.

Characteristic Waste: Not Applicable

Listed Waste: Not Applicable

**14. TRANSPORT INFORMATION**

DOT Classification

Ground Transport - NAFTA

Proper Shipping Name: Pyrethroid Pesticide, Liquid, Toxic (contains Lambda-Cyhalothrin, 23%)

Hazard Class or Division: Class 6.1

Identification Number: UN 3352

Packing Group: PG III

B/L Freight Classification

Insecticides, NOI, Poison

Comments

Water Transport - International

Proper Shipping Name: Pyrethroid Pesticide, Liquid, Toxic (contains Lambda-Cyhalothrin, 23%), Marine Pollutant

Hazard Class or Division: Class 6.1

Identification Number: UN 3352

Packing Group: PG III

Air Transport - International

Proper Shipping Name: Pyrethroid Pesticide, Liquid, Toxic (contains Lambda-Cyhalothrin, 23%)

Hazard Class or Division: Class 6.1

Identification Number: UN 3352

Packing Group: PG III

Maximum Quantity/Pkg: 60L (2.5L max inner containers)

**15. REGULATORY INFORMATION**

EPCRA SARA Title III Classification

Section 311/312 Hazard Classes: Acute Health Hazard  
Chronic Health Hazard

Section 313 Toxic Chemicals: Naphthalene (<= 3%) (CAS No. 91-20-3)

California Proposition 65

Not Applicable

CERCLA/SARA 302 Reportable Quantity (RQ)

Report product spills > 430 gal. (based on naphthalene [RQ = 100 lbs.] content in the formulation)

RCRA Hazardous Waste Classification (40 CFR 261)

Not Applicable

TSCA Status

Exempt from TSCA, subject to FIFRA

**16. OTHER INFORMATION**

NFPA Hazard Ratings

Health: 2  
Flammability: 1  
Instability: 0

HMIS Hazard Ratings

Health: 2  
Flammability: 1  
Reactivity: 0

0	Minimal
1	Slight
2	Moderate
3	Serious
4	Extreme

For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 03/12/1998

Revision Date: 08/27/2004

Replaces: 09/30/2002

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein.

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End of MSDS