



## MATERIAL SAFETY DATA SHEET

In Case of Emergency, Call

1-800-888-8372

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

### 1. CHEMICAL IDENTIFICATION

Product Name: **DEMAND CS** Product No.: A12690A  
EPA Signal Word: Caution  
Active Ingredient(%): Lambda-Cyhalothrin Technical (9.7%) 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

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Material	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen
Petroleum Solvent	Not Established	Not Established	100 mg/m <sup>3</sup> (19 ppm)*	No
Xylene	100 ppm TWA	100 ppm TWA; 150 ppm STEL	Not Established	IARC, 3
Cumene	50 ppm TWA (Skin)	50 ppm TWA	Not Established	No
1,2,4-Trimethylbenzene	25 ppm TWA	25 ppm TWA	Not Established	No
Lambda-Cyhalothrin Technical (9.7%)	Not Established	Not Established	0.04 mg/m <sup>3</sup> 8-hr TWA (skin)***	No

\* recommended by manufacturer

\*\*\* Syngenta Occupational Exposure Standard (OES)

### 3. HAZARDS IDENTIFICATION

#### Symptoms of Acute Exposure

Harmful if inhaled or swallowed. Dust, mist or vapor irritating to eyes and respiratory tract. May cause skin irritation. May cause temporary itching, tingling, burning or numbness of exposed skin, called paresthesia.

#### Hazardous Decomposition Products

Can decompose at high temperatures forming toxic gases.

#### Physical Properties

Appearance: Off-white liquid

Odor: Slight odor/typical aromatic solvent

#### 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

If poisoning is suspected, immediately contact a physician, the nearest hospital, or the nearest Poison Control Center. Tell the person contacted the complete product name, and the type and amount of exposure. Describe any symptoms and follow the advice given.

- Ingestion:** If swallowed: Call Syngenta (800-888-8372), a poison control center or doctor immediately for treatment advice. Have the person sip a glass of water if able to swallow. 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.

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

#### Medical Condition Likely to be Aggravated by Exposure

None known.

## **5. FIRE FIGHTING MEASURES**

### Fire and Explosion

- Flash Point (Test Method): >212 °F (Setaflash)
- Flammable Limits (% in Air): Lower: %; 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 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 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 AND PACKAGING OF THE PRODUCT.**

**FOR COMMERCIAL APPLICATIONS AND 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. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
- 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: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below exposure limits. Concentrate can dry to a highly irritating dust. A NIOSH-certified combination air-purifying respirator with an N, P or R 95 or HE class filter and an organic vapor cartridge may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a pressure demand atmosphere-supplying respirator if there is any potential for uncontrolled release, exposure levels are not known, or under any other circumstances where air-purifying respirators may not provide adequate protection.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance: Off-white liquid
- Odor: Slight odor/typical aromatic solvent
- Melting Point: Not Available
- Boiling Point: 212°F
- Specific Gravity/Density: 1.04 @ 68°F (20°C)
- pH: 7.3(1% w/w dilution in deionized water)

### 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

### Reactivity

- Stability: Stable under standard conditions.
- Hazardous Polymerization: Will not occur.
- Conditions to Avoid: None known.

### Hazardous Decomposition Products

Can decompose at high temperatures forming toxic gases.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity/Irritation Studies

- Ingestion: Practically Non-Toxic  
Oral LD50 (Rat) : > 5000 mg/kg body weight
- Dermal: Slightly Toxic  
Dermal LD50 (Rat) : > 2000 mg/kg body weight
- Inhalation: Practically Non-Toxic  
Inhalation LC50 (Rat) : > 4.62 mg/l air - 4 hours
- Eye Contact: Mildly Irritating (Rabbit)
- Skin Contact: Moderately Irritating (Rabbit)
- Skin Sensitization: Not available at this time.

### Mutagenic Potential

Lambda-Cyhalothrin Technical: Negative

### Reproductive Hazard Potential

Lambda-Cyhalothrin Technical: Not a developmental or reproductive toxicant.

### Chronic/Subchronic Toxicity Studies

Lambda-Cyhalothrin Technical: Reversible clinical signs of neurotoxicity in mammals. Reversible paresthesia (abnormal skin sensation).

### Carcinogenic Potential

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

### 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

#### Petroleum Solvent

The supplier reports that high vapor/aerosol concentrations (> 1000 ppm) are irritating to the eyes and the respiratory tract, may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness and other central nervous system effects.

### Target Organs

#### Active Ingredients

Lambda-Cyhalothrin Technical : Liver, nervous system

#### Inert Ingredients

Petroleum Solvent : Eye, respiratory tract, CNS

## **12. ECOLOGICAL INFORMATION**

### Summary of Effects

Lambda-Cyhalothrin Technical:

Toxic to fish. Very toxic to aquatic organisms.

### Eco-Acute Toxicity

Lambda-Cyhalothrin Technical: Rainbow Trout 96-hour LC50 0.44 ug/l  
Daphnia magna 48 hours EC50 0.36 ug/l  
Green Algae EC50 >1 mg/l  
Pseudomonas putida IC50 >1 mg/l

### Eco-Chronic Toxicity

Lambda-Cyhalothrin Technical: Not available at this time.

### Environmental Fate

Lambda-Cyhalothrin Technical:

No data available for the formulation. The information presented here is for the active ingredient, lambda-cyhalothrin. A thorough review of environmental information is not possible in this document. For additional information call the toll free number listed in Section 16.

Soil/Environment: Rapidly degraded in soil; DT50 for microbial degradation 23-82 d. for field soil 6-40 d. Strongly adsorbed to soil and sediment organic matter. Koc 330000. Negligible potential for leaching of lambda-cyhalothrin and its degradation products through soil. Rapid dissipation from water in aquatic systems. DT50 for dissipation from surface waters in lab water-sediment systems 5-11 h; in a microcosm DT50 <3 h. Rapid and extensive degradation of parent compound in aquatic systems; DT50 for degradation in lab water-sediment systems 7-15 d; in

a microcosm DT50 <3 h, DT90 <3 d.

### 13. DISPOSAL CONSIDERATION

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: Xylene U239

### 14. TRANSPORT INFORMATION

DOT Classification:

Not regulated by DOT.

B/L Freight Classification

Insecticides, NOIBN, o/t poison

International Transportation

Not regulated.

### 15. REGULATORY INFORMATION

SARA Title III Classification

Section 311/312: Acute Health Hazard

Section 313 chemical(s): 1,2,4-Trimethylbenzene (CAS No. 95-63-6)

Cumene (CAS No. 98-82-8)

Xylene (CAS No. 1330-20-7)

Proposition 65

Not Applicable

CERCLA Reportable Quantity (RQ)

>49,000 lbs (based on Xylene, CAS # 1330-20-7 [RQ = 100 lbs] in the formulation)

RCRA Classification

Not Applicable

TSCA Status

Exempt from TSCA, subject to FIFRA

### 16. OTHER INFORMATION

NFPA Hazard Ratings

Health: 2  
Flammability: 1  
Reactivity: 0

0	Least
1	Slight
2	Moderate
3	High
4	Severe
5	Not Known

Questions concerning the safe handling of the product should be referred to:

1-800-334-9481

Issued Date: 07/14/1999

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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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