

**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: **BORDER INSECTICIDE** 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  
 EPA Registration Number(s): 100-1066 **Section(s) Revised: 14**

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

| Material                            | OSHA PEL          | ACGIH TLV                 | Other                                | NTP/IARC/OSHA Carcinogen |
|-------------------------------------|-------------------|---------------------------|--------------------------------------|--------------------------|
| Cumene (< 1%)                       | 50 ppm TWA (skin) | 50 ppm TWA                | Not Established                      | No                       |
| Petroleum Solvent                   | Not Established   | Not Established           | 100 mg/m <sup>3</sup> (19 ppm) TWA*  | No                       |
| 1,2,4-Trimethylbenzene (<= 2.2%)    | Not Established   | 25 ppm TWA                | 25 ppm TWA**                         | No                       |
| Xylene (<= 1%)                      | 100 ppm TWA       | 100 ppm TWA; 150 ppm STEL | 100 ppm TWA**                        | IARC Group 3             |
| Lambda-Cyhalothrin Technical (9.7%) | 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

May cause eye and skin irritation. Allergic skin reactions are possible.  
 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: 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

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.

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): > 212°F (Setaflash)
- 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 CO2 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 in Protective Equipment Section. 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: Off-white liquid
- Odor: Slight odor/typical aromatic solvent
- Melting Point: Not Applicable
- 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

- 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: Practically Non-Toxic  
Oral (LD50 Rat) : > 5,000 mg/kg body weight
- Dermal: Slightly Toxic  
Dermal (LD50 Rat) : > 2,000 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: A weak 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

1,2,4-Trimethylbenzene (<= 2.2%)

Test results reported in Section 11 for the final product take into account any acute hazards related to the 1,2,4-trimethylbenzene in the formulation.

Cumene (< 1%)

Exposure to cumene vapors may cause irritation to eyes, skin, and respiratory tract. Cumene may also cause headaches, dizziness, anesthesia, drowsiness, unconsciousness and other central nervous system effects. Prolonged exposure to high concentrations (>100 PPM) may result in liver, kidney or lung damage.

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.

Xylene (<= 1%)

Test results reported in Section 11 for the final product take into account any acute hazards related to the xylene in the formulation.

#### Target Organs

##### Active Ingredients

Lambda-Cyhalothrin Technical: Liver, nervous system

##### Inert Ingredients

1,2,4-Trimethylbenzene: Not Applicable

Cumene: Skin, eye, liver, respiratory tract, kidney, CNS

Petroleum Solvent: Eye, respiratory tract, CNS

Xylene: Not Applicable

## **12. ECOLOGICAL INFORMATION**

#### Summary of Effects

Lambda-Cyhalothrin Technical:

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

#### Eco-Acute Toxicity

Lambda-Cyhalothrin Technical:  
Bees LC50/EC50 0.038 ug/bee  
Invertebrates (Water Flea) LC50/EC50 0.00036 ppm  
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- Not available at this time.  
Cyhalothrin  
Technical:

#### 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

Containers < 450 liters: Not regulated.

Containers > 450 liters:

Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Lambda-Cyhalothrin)

Hazard Class or Division: Class 9

Identification Number: UN 3082

Packing Group: PG III

Air Transport - NAFTA

Containers < 450 liters: Not regulated.

Containers > 450 liters: Prohibited.

#### B/L Freight Classification

Insecticides, NOIBN, O/T Poison

#### Comments

Water Transport - International

Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Lambda-Cyhalothrin), Marine Pollutant

Hazard Class or Division: Class 9

Identification Number: UN 3082

Packing Group: PG III

IMDG EMS #: F-A, S-F

Air Transport - International

Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Lambda-Cyhalothrin)

Hazard Class or Division: Class 9

Identification Number: UN 3082

Packing Group: PG III

Packing Auth.: 914

Note: Max. inner packages 5 liters

Max. single packages 450 liters

### **15. REGULATORY INFORMATION**

#### EPCRA SARA Title III Classification

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

Section 313 Toxic Chemicals: Cumene (< 1%) (CAS No. 98-82-8)

1,2,4-Trimethylbenzene (<= 2.2%) (CAS No. 95-63-6)

Xylene (<= 1%) (CAS No. 1330-20-7)

California Proposition 65

Not Applicable

CERCLA/SARA 302 Reportable Quantity (RQ)

Report product spills > 520 gal. (based on xylene [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: 02/21/2005

Revision Date: 03/31/2005

Replaces:

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.

RSVP# : Not Applicable

End of MSDS