

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

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

## 1. PRODUCT IDENTIFICATION

Product Name: **WARRIOR INSECTICIDE with ZEON TECHNOLOGY** Product No.: A12838B

EPA Signal Word: Warning

Active Ingredient(%): Lambda-Cyhalothrin (11.4%) 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): 100-1112 Section(s) Revised: 9, 15

## 2. HAZARDS IDENTIFICATION

### Health and Environmental

Harmful if swallowed or inhaled. Causes mild eye and skin irritation. Vapors may cause drowsiness and dizziness. May be harmful if swallowed and enters airway.

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

### Hazardous Decomposition Products

Not Available

### Physical Properties

Appearance: Blue opaque liquid (capsule suspension)

Odor: Not Available

### Unusual Fire, Explosion and Reactivity Hazards

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

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Material	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen
Petroleum Solvent	Not Established	Not Established	50 mg/m <sup>3</sup> (8 ppm) TWA *	No
Propylene Glycol	Not Established	Not Established	10 mg/m <sup>3</sup> TWA ****	No
Naphthalene (< 1.5%)	10 ppm TWA	10 ppm TWA (skin)	10 ppm TWA **	See "Toxicity", Sec. 11
Lambda-Cyhalothrin (11.4%)	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

#### 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

Not Available

#### 5. FIRE FIGHTING MEASURES

##### Fire and Explosion

- Flash Point (Test Method): > 200°F
- 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 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 AND PACKAGING 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 gloves (such as barrier laminate, nitrile rubber, neoprene rubber or Viton), coveralls, socks and chemical-resistant footwear. 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 of MSDS). Do not touch unprotected skin areas (face) with contaminated gloves or clothing.
- Inhalation: A combination particulate/organic vapor respirator should be used until effective engineering controls are installed to comply with occupational exposure limits, or until exposure limits are established. Use a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any R, P or HE filter.

Use a self-contained breathing apparatus in cases of emergency spills, when exposure levels are unknown, or under any circumstances where air-purifying respirators may not provide adequate protection.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance: Blue opaque liquid (capsule suspension)
- Odor: Not Available
- Melting Point: Not Available
- Boiling Point: Not Available
- Specific Gravity/Density: 1.060 - 1.070 g/ml
- pH: 4.5 - 6.0 (neat)

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

Lambda-Cyhalothrin : 0.004 mg/l

### Vapor Pressure

Lambda-Cyhalothrin : 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: Not Available
- Materials to Avoid: Not Available
- Hazardous Decomposition Products: Not Available

## 11. TOXICOLOGICAL INFORMATION

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

Ingestion:

	Oral (LD50 Male Rat) :	351 mg/kg body weight
Dermal:		
	Dermal (LD50 Rat) :	> 2000 mg/kg body weight
Inhalation:		
	Inhalation (LC50 Rat) :	> 2.5 mg/l air - 4 hours
Eye Contact:	Mildly Irritating (Rabbit)	
Skin Contact:	Slightly Irritating (Rabbit)	
Skin Sensitization:	Not Available	

#### Reproductive/Developmental Effects

Lambda-Cyhalothrin : Not a developmental or reproductive toxicant.

#### Chronic/Subchronic Toxicity Studies

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

#### Carcinogenicity

Lambda-Cyhalothrin : 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

##### Naphthalene (< 1.5%)

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

Chronic overexposure to naphthalene can affect the liver, kidney, respiratory tract and blood.

Carcinogen Status:

NTP: Anticipated Carcinogen

IARC: Group 2B Possible Human Carcinogen

##### Petroleum Solvent

Repeated exposure may cause skin dryness or cracking. If swallowed, may be aspirated and cause lung damage.

May be irritating to the eyes, nose, throat and lungs.

Breathing of high vapor concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache, nausea and loss of coordination.

##### Propylene Glycol

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

Reported to cause central nervous system depression (anesthesia, dizziness, confusion), headache and nausea.

Chronic dietary exposure caused kidney and liver injury in experimental animals.

#### Target Organs

##### Active Ingredients

Lambda-Cyhalothrin : Liver, nervous system

##### Inert Ingredients

Naphthalene: Liver, kidney, respiratory tract, blood

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

Propylene Glycol: CNS, kidney, liver

## **12. ECOLOGICAL INFORMATION**

#### Ecotoxicity Effects

##### Lambda-Cyhalothrin :

Fish (Rainbow Trout) 96-hour LC50 0.19 ppb

Bird (Mallard Duck) LD50 Oral > 3950 mg/kg

Invertebrate (Water Flea) 48-hour EC50 0.04 ppb

#### Environmental Fate

##### Lambda-Cyhalothrin :

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 Pesticides, Liquid, Toxic, (contains Lambda-Cyhalothrin)

Hazard Class or Division: 6.1

Identification Number: UN 3352

Packing Group: PG III

#### Comments

Water Transport - International

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

Hazard Class or Division: 6.1

Identification Number: UN 3352

Packing Group: PG III

Air Transport

Proper Shipping Name: Pyrethroid Pesticides, Liquid, Toxic, (contains Lambda-Cyhalothrin)

Hazard Class or Division: 6.1

Identification Number: UN 3352

Packing Group: PG III

### **15. REGULATORY INFORMATION**

#### EPCRA SARA Title III Classification

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

Section 313 Toxic Chemicals: Naphthalene (< 1.5%) (CAS No. 91-20-3)

#### California Proposition 65

This Product contains trace amounts of chemicals, known to the State of California to cause cancer, as unintended impurities resulting from other entities manufacturing or processing operations which Syngenta cannot control.

CERCLA/SARA 304 Reportable Quantity (RQ)

Report product spills > 800 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: 12/12/2000

Revision Date: 1/8/2013

Replaces: 7/16/2010

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