

## DEMAND® CS

Date: 12/5/2014  
Replaces: 7/14/2011

### 1. PRODUCT IDENTIFICATION

Product identifier on label: **DEMAND® CS**  
Product No.: A12690A  
Use: Insecticide  
Manufacturer: Syngenta Crop Protection, LLC  
Post Office Box 18300  
Greensboro NC 27419  
Manufacturer Phone: 1-800-334-9481

**Emergency Phone: 1-800-888-8372**

### 2. HAZARDS IDENTIFICATION

Classifications: Skin Sensitizer: Category 1B  
Specific Target Organ Toxicity: Repeated Category 2  
Specific Target Organ Toxicity: Drowsiness Category 3  
Specific Target Organ Toxicity: Respiratory Irritation Category 3  
Aspiration Hazard: Category 1

Signal Word (OSHA): Warning

Hazard Statements: May be fatal if swallowed and enters airways  
May cause an allergic skin reaction  
May cause respiratory irritation  
May cause drowsiness or dizziness  
May cause damage to organs

Hazard Symbols:



Precautionary Statements: Do not breathe mist, vapors, spray.  
Use only outdoors or in a well-ventilated area.  
Contaminated work clothing must not be allowed out of the workplace.  
Wear protective gloves, protective clothing, eye protection.  
If on skin: Wash with plenty of soap and water.  
If skin irritation or rash occurs: Get medical advice.  
If inhaled: Remove person to fresh air and keep comfortable for breathing.  
Call a poison center, doctor or Syngenta if you feel unwell.  
See Section 4 First Aid Measures.  
Wash contaminated clothing before reuse.

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Store locked up.  
Dispose of contents and container in accordance with local regulations.  
If swallowed: Immediately call a poison center, doctor or Syngenta.  
Do NOT induce vomiting.

Other Hazard Statements: May cause temporary itching, tingling, burning or numbness of exposed skin, called paresthesia.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Common Name	CAS Number	Concentration
Xylene	Xylene	1330-20-7	<1%
1,2,4-Trimethylbenzene	1,2,4-Trimethylbenzene	95-63-6	<2.5%
Cumene	Cumene	98-82-8	<1%
1,2-Propanediol	Propylene Glycol	57-55-6	Trade Secret
Petroleum Solvent	Petroleum Solvent	64742-95-6	Trade Secret
Other ingredients	Other ingredients	Trade Secret	>85.8%
[1a(S*),3a(Z)]-cyano(3-phenoxyphenyl)methyl-3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylate	Lambda-Cyhalothrin	91465-08-6	9.7%

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

## 4. FIRST AID MEASURES

Have the product container, label or 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.

Most important symptoms/effects:

Allergic skin reaction  
Drowsiness or dizziness  
Respiratory irritation

Indication of immediate medical attention and special treatment needed:

There is no specific antidote if this product is ingested.  
Treat symptomatically.

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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.

### 5. FIRE FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media:

Use dry chemical, foam or CO2 extinguishing media. If water is used to fight fire, dike and collect runoff.

Specific Hazards:

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

Special protective equipment and precautions for firefighters:

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.

### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures:

Follow exposure controls/personal protection outlined in Section 8.

Methods and materials for containment and cleaning up:

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

Precautions for safe handling:

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.

Conditions for safe storage, including any incompatibilities:

Store locked up.

### 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.**

Occupational Exposure Limits:

Chemical Name	OSHA PEL	ACGIH TLV	Other	Source
Xylene	100 ppm TWA	100 ppm TWA; 150 ppm STEL	100 ppm TWA	NIOSH
1,2,4-Trimethylbenzene	Not Established	25 ppm TWA	25 ppm TWA	NIOSH

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Cumene	50 ppm TWA (skin)	50 ppm TWA	Not Established	Not Applicable
Propylene Glycol	Not Established	Not Established	10 mg/m <sup>3</sup> TWA	AIHA
Petroleum Solvent	Not Established	Not Established	100 mg/m <sup>3</sup> (19 ppm) TWA	Manufacturer
Other ingredients	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Lambda-Cyhalothrin	Not Established	Not Established	0.04 mg/m <sup>3</sup> TWA (skin)	Syngenta

Appropriate engineering controls:

Use effective engineering controls to comply with occupational exposure limits (if applicable).

Individual protection measures:

**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, butyl rubber, nitrile 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).

**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: Off-white liquid

Odor: Slight odor/typical aromatic solvent

Odor Threshold: Not Available

pH: 7.3 (1% w/w dilution in deionized water)

Melting point/freezing point: Not Applicable

Initial boiling point and boiling range: 212 °F

Flash Point (Test Method): > 212°F (Setaflash)

Flammable Limits (% in Air): Not Available

Flammability: Not Applicable

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

Vapor Density: Not Available

Relative Density: 1.036 @ 68°F (20°C)

Solubility (ies): Lambda-Cyhalothrin 0.004 mg/l

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Partition coefficient: n-octanol/water: Not Available  
Autoignition Temperature: Not Available  
Decomposition Temperature: Not Available  
Viscosity: Not Available  
Other: None

### 10. STABILITY AND REACTIVITY

Reactivity: Not reactive.  
Chemical stability: Stable under normal use and storage conditions.  
Possibility of hazardous reactions: Will not occur.  
Conditions to Avoid: None known.  
Incompatible materials: None known.  
Hazardous Decomposition Products: None known.

### 11. TOXICOLOGICAL INFORMATION

#### Health effects information

Likely routes of exposure: Dermal, Inhalation

Symptoms of exposure: Drowsiness or dizziness, Respiratory irritation

Delayed, immediate and chronic effects of exposure: Allergic skin reaction, Drowsiness or dizziness, Respiratory irritation, Paresthesia

#### Numerical measures of toxicity (acute toxicity/irritation studies (finished product))

Ingestion:	Oral (LD50 Rat) :	> 5000 mg/kg body weight
Dermal:	Dermal (LD50 Rat) :	> 2000 mg/kg body weight
Inhalation:	Inhalation (LC50 Rat) :	> 4.62 mg/l air - 4 hours
Eye Contact:	Non-Irritating (Rabbit)	
Skin Contact:	Practically Non-Irritating (Rabbit)	
Skin Sensitization:	A weak skin sensitizer in animal tests.	

#### 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.

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Carcinogenicity

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

Chemical Name	NTP/IARC/OSHA Carcinogen
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Xylene	IARC Group 3
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1,2,4-Trimethylbenzene	No
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Cumene	No
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1,2-Propanediol	No
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Petroleum Solvent	No
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Other ingredients	No
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[1a(S*),3a(Z)]-cyano(3-phenoxyphenyl)methyl-3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylate	No
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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

Inhalation of 1,2,4-trimethylbenzene at high concentrations can cause central nervous system depression, respiratory tract irritation, asphyxiation, cardiac stress and coma. Effects of chronic exposure to this solvent can include blood disorders (anemia, leukopenia) and kidney or liver damage.

## Cumene

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.

## Other ingredients

Not Applicable

## 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.

## Propylene Glycol

Reported to cause central nervous system depression (anesthesia, dizziness, confusion), headache and nausea. Also, eye irritation may occur with lacrimation but no residual discomfort or injury. Prolonged contact to skin may cause mild to moderate irritation and possible allergic reactions. Chronic dietary exposure caused kidney and liver injury in experimental animals.

## Xylene

Inhalation of xylene at high concentrations can cause central nervous system depression, respiratory tract irritation, asphyxiation, cardiac stress and coma.

Target OrgansActive Ingredients

Lambda-Cyhalothrin : Liver, nervous system

Inert Ingredients

1,2,4-Trimethylbenzene: CNS, liver, kidney, blood, respiratory tract, skin, eye

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

Other ingredients: Not Applicable

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Petroleum Solvent:	Eye, respiratory tract, CNS
Propylene Glycol:	CNS, kidney, liver
Xylene:	CNS, respiratory tract, skin

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### 12. ECOLOGICAL INFORMATION

#### Eco-Acute Toxicity

##### 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

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

#### 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

Air Transport

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

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### 15. REGULATORY INFORMATION

**Pesticide Registration:**

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

**Caution:** Harmful if absorbed through skin. Avoid breathing spray mist or vapor. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling, and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove contaminated clothing and wash before reuse. Prolonged or frequently repeated skin contact may cause allergic skin reactions in some individuals.

**EPA Registration Number(s):**

100-1066

**EPCRA SARA Title III Classification:**

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

Section 313 Toxic Chemicals: Xylene <1% (CAS No. 1330-20-7)  
 1,2,4-Trimethylbenzene <2.5% (CAS No. 95-63-6)  
 Cumene <1% (CAS No. 98-82-8)

**CERCLA/SARA 304 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
*	Chronic

Syngenta Hazard Category: C,S

For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 7/14/1999

Revision Date: 12/5/2014

Replaces: 7/14/2011

Section(s) Revised: 1-16

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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