1. PRODUCT IDENTIFICATION

Product Name: DEMAND CS
EPA Signal Word: Caution

Active Ingredient(%): Lambda-Cyhalothrin (9.7%)
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

Product No.: A12690A
CAS No.: 91465-08-6
EPA Registration Number(s): 100-1066
Section(s) Revised: 3, 12

2. HAZARDS IDENTIFICATION

Health and Environmental
May cause skin irritation. May cause sensitization by skin contact. Vapors may cause drowsiness and dizziness. May cause temporary itching, tingling, burning or numbness of exposed skin, called paresthesia.

Hazardous Decomposition Products
May 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.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Material</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
<th>Other</th>
<th>NTP/IARC/OSHA Carcinogen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumene (&lt; 1%)</td>
<td>50 ppm TWA (skin)</td>
<td>50 ppm TWA</td>
<td>Not Established</td>
<td>No</td>
</tr>
<tr>
<td>Petroleum Solvent</td>
<td>Not Established</td>
<td>Not Established</td>
<td>100 mg/m³ (19 ppm) TWA *</td>
<td>No</td>
</tr>
<tr>
<td>Propylene Glycol</td>
<td>Not Established</td>
<td>Not Established</td>
<td>50 ppm TWA AIHA WEEL ****</td>
<td>No</td>
</tr>
<tr>
<td>1,2,4-Trimethylbenzene (&lt;= 2.5%)</td>
<td>Not Established</td>
<td>25 ppm TWA</td>
<td>25 ppm TWA **</td>
<td>No</td>
</tr>
<tr>
<td>Xylene (&lt;= 1%)</td>
<td>100 ppm TWA</td>
<td>100 ppm TWA; 150 ppm STEL</td>
<td>100 ppm TWA **</td>
<td>IARC Group 3</td>
</tr>
<tr>
<td>Lambda-Cyhalothrin (9.7%)</td>
<td>Not Established</td>
<td>Not Established</td>
<td>0.04 mg/m³ TWA (skin) ***</td>
<td>No</td>
</tr>
</tbody>
</table>

* recommended by manufacturer
** recommended by NIOSH
*** Syngenta Occupational Exposure Limit (OEL)
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): > 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
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)

Solubility in H2O
Lambda-Cyhalothrin : 0.004mg/l
Vapor Pressure
Lambda-Cyhalothrin : 1.5 x 10(-9) 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: May decompose at high temperatures forming toxic gases.

11. TOXICOLOGICAL INFORMATION
Acute Toxicity/Irritation Studies (Finished Product)

<table>
<thead>
<tr>
<th>Ingestion:</th>
<th>Practically Non-Toxic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral (LD50 Rat):</td>
<td>&gt; 5,000 mg/kg body weight</td>
</tr>
</tbody>
</table>

Dermal:

<table>
<thead>
<tr>
<th>Slightly Toxic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dermal (LD50 Rat):</td>
</tr>
</tbody>
</table>

Inhalation:

<table>
<thead>
<tr>
<th>Practically Non-Toxic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation (LC50 Rat):</td>
</tr>
</tbody>
</table>

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).

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

1,2,4-Trimethylbenzene (<= 2.5%)

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.

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.

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: Liver, nervous system

Inert Ingredients

1,2,4-Trimethylbenzene: Not Applicable

Cumene: Skin, eye, liver, respiratory tract, kidney, CNS
12. ECOLOGICAL INFORMATION

Summary of Effects
Lambda-Cyhalothrin:
Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Eco-Acute Toxicity
Lambda-Cyhalothrin:
- Fish (Rainbow Trout) 96-hour LC50 0.19 ppb
- Fish (Bluegill Sunfish) 96-hour LC50 0.21 ppb
- Bird (Mallard Duck) LD50 Oral > 3950 mg/kg
- Bird (Mallard Duck) 8-day dietary LC50 > 3948
- Bee (Contact) LD50 0.038 ug/bee
- Invertebrate (Water Flea) 48-hour EC50 0.04 ppb
- Bird (Bobwhite Quail) 8-day dietary LC50 > 5300 ppm

Eco-Chronic Toxicity
Lambda-Cyhalothrin:
- Invertebrate (Water Flea) 21-day LOEC 0.0035 ppb
- Bird (Mallard Duck) Reproduction 19-week LOEL > 30 ppm
- Fish (Fathead Minnow) 300-day LOEC 0.062 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: Contains Cumene U055; Contains Xylene U239

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.
15. REGULATORY INFORMATION

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

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 (<= 2.5%) (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

<table>
<thead>
<tr>
<th>NFPA Hazard Ratings</th>
<th>HMIS Hazard Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health:</td>
<td>Health:</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Flammability:</td>
<td>Flammability:</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Instability:</td>
<td>Reactivity:</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

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: 7/14/1999
Revision Date: 6/13/2007
Replaces: 5/22/2006
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.

End of MSDS