

## MATERIAL SAFETY DATA SHEET

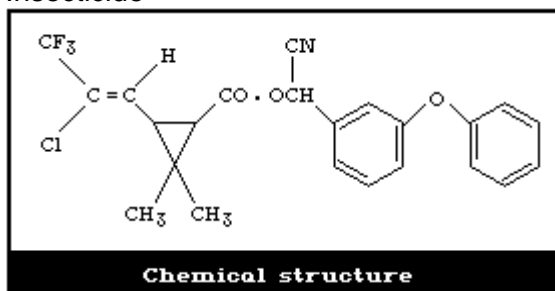
### AGRIANCE

P.O. Box 8213,  
Netanya, 42293, Israel.

In case of emergency, Call  
972-9-865-6454

### 1. PRODUCT IDENTIFICATION

**Product Name :** LAMBFAL  
**Signal Word :**  
**Active Ingredient (%) :** Lambda-cyhalothrin 5%  
**Chemical Name :** Lambda-cyhalothrin  
**Chemical formula** C<sub>23</sub>H<sub>19</sub>ClF<sub>3</sub>NO<sub>3</sub>  
**Chemical Class** Pyrethroid  
**Use:** Insecticide  
**Structure:**



### 2. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	Percentage	CAS No	Symbols	R-phrases
lambdacyhalothrin	5.5% w/w	91465-08-6	T+, N	R21, R25, R26, R38, R41, R50/53, R65

### 3. HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

**CAUTION :** Flammable.  
Harmful if swallowed.  
Toxic by inhalation.  
Irritating to respiratory system and skin.  
Risk of serious damage to eyes.

#### POTENTIAL HEALTH EFFECTS

- 3.1 Likely routes of exposure** Inhalation, Ingestion, Skin Contact, Skin Absorption, or Eye Contact.
- 3.2 Immediate effects:**  
**Inhalation** Harmful if inhaled. Avoid breathing dust or aerosol.

- Skin Contact:** Avoid contact with skin and clothing. Can cause substantial acute skin irritation and allergic reaction, but is unlikely to cause chronic irritation or sensitization by skin contact.
- Eye Contact:** Can cause moderate eye irritation. Do not get in eyes.
- Ingestion:** Harmful if swallowed. Do not take internally.

#### 4. FIRST AID MEASURES

##### 4.1 General Information:

May cause upper respiratory irritation, or temporary irritation to the eyes. Have the product container or label with you when calling a poison control center or doctor or going for treatment.

- 4.2 Ingestion :** Call a poison control center or doctor immediately for treatment advice. Have the affected person drink a glass of water if they are able to swallow. DO NOT INDUCE VOMITING. Lower the head if the exposed person is vomiting to minimize entry into throat and lungs.
- 4.3 Eye Contract :** Flush with clean, lukewarm water raising upper and lower eyelids at low pressure for 15 minutes. Remove contact lenses, if present, after the first five minutes and continue to rinse the eyes. Seek medical attention if no relief.
- 4.4 Skin Contact :** Remove any contaminated clothing. Rinse area with clean water for 15-20 minutes. Call poison control center or doctor for treatment advice.
- 4.5 Inhalation :** Move the exposed person to fresh air, free from risk of further exposure. If the person is not breathing call an ambulance then give artificial respiration. Seek medical attention as soon as possible.
- 4.6 Advices to Medical Treatment:** No specific antidotes. Treat symptomatically. If BENOMYL has been ingested, and copious vomiting has not occurred, the stomach must be emptied and steps taken to limit gastrointestinal absorption. Note the nature of this product

#### 5. FIRE FIGHTING MEASURES

- 5.1 Flash Point:** 194 °F (90 °C).
- 5.2 Auto Ignition Temperature:** This product is unlikely to undergo spontaneous decomposition.
- 5.3 Fire and explosion Hazards** During a fire, thermal decomposition of Lambda Cyhalothrin can produce irritating and toxic gases, including hydrogen cyanide, hydrogen fluoride, hydrogen chloride, nitrogen oxides and carbon oxides. Under extreme dusting conditions Lambda Cyhalothrin may form an explosive mixture in air.
- 5.4 Suitable extinguishing media:** Use water spray, dry chemicals, carbon dioxide, or foam.
- 5.5 Fire fighting instructions:** Wear encapsulated suit and NIOSH-approved self-contained breathing apparatus while fighting a fire where this product is burning. Keep out of smoke. Fight fire from an upwind position. Cool closed containers exposed to fire with water spray. Dike the area to prevent

runoff and contamination of water sources. Equipment or materials involved in pesticide fires may become contaminated.

## 6. ACCIDENTAL RELEASE MEASURES

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| <b>6.1 Personal Precautions:</b>             | Wear PPE per Section 8.<br>Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.  |
| <b>6.2 Handling and storage Precautions:</b> | Use normal safety procedures and good personal hygiene. Wash thoroughly after use and before eating, drinking, chewing gum, or using tobacco.  |
| <b>6.3 Methods for Cleaning Up:</b>          | Avoid creating a dust cloud. Sweep up spilled material. Keep in suitable, closed containers for disposal. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations. |
| <b>6.4 Additional Advice:</b>                | Do not allow material to enter streams, sewers, or other waterways. Lambda Cyhalothrin is highly toxic to fish and aquatic invertebrates.  |

## 7. HANDLING AND STORAGE

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| <b>7.1 Storage temperature:</b>              | Keep containers tightly closed. Avoid temperatures above 38 °C (100°F) or below 0°C (32 °F). Store in a cool, dry, well-ventilated area.  |
| <b>7.2 Special Sensitivity:</b>              | Avoid contact with skin and eyes. Wear PPE per Section 8  |
| <b>7.3 Handling and Storage precautions:</b> | Avoid breathing Lambda Cyhalothrin mist or vapors. Use normal safety procedures and good personal hygiene. Remove and wash PPE as soon as possible after handling product. Wash thoroughly after use, and before eating, drinking, chewing gum, or using tobacco. |

## 8. EXPOSURE CONTROL/PERSONAL PROTECTION

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|---|--|
| <b>8.1 Engineering Control:</b>                 | Provide adequate ventilation when product is used. Eyewash and shower should be provided in mixing and loading areas.  |
| <b>8.2. Personal Protective Equipment (PPE)</b> | The use of technical measures should always have priority over the use of personal protective equipment. When selecting personal protective equipment, seek appropriate professional advice.<br>Personal protective equipment should be certified to appropriate standards.  |
| <b>8.3 Respiratory protection</b>               | A particulate filter respirator may be necessary until effective technical measures are installed. Protection provided by air-purifying respirators is limited. 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. |
| <b>8.4 Hand Protection:</b>                     | Chemical resistant gloves should be used.<br>Gloves should be certified to an appropriate standard.  |

Gloves should have a minimum breakthrough time that is appropriate to the duration of exposure. The breakthrough time of gloves varies according to the thickness, material and manufacturer. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Suitable material : Nitrile rubber

**8.5 Eye Protection:** If eye contact is possible, use tight-fitting chemical safety goggles and a face shield..

**8.6 Skin and body protection:** Assess the exposure and select chemical resistant clothing based on the potential for contact and the permeation / penetration characteristics of the clothing material. Wash with soap and water after removing protective clothing. Decontaminate clothing before re-use, or use disposable equipment (suits, aprons, sleeves, boots, etc.)  
 Wear as appropriate: impervious protective suit

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>9.1 Physical Form:</b>	Liquid
<b>9.2 Appearance :</b>	Light yellow
<b>9.3 Odor</b>	Aromatic odor
<b>9.4 Solubility in water:</b>	Insoluble
<b>9.5 pH in water</b>	> 4.0 - 6.5 at 1 % w/v
<b>9.6 Flash Point (°C)</b>	> 38 °C Abel-Pensky c.c.

## 10. STABILITY AND REACTIVITY

<b>10.1 Chemical Stability</b>	This product is a stable material under normal conditions of storage and handling. Avoid temperatures above 38 °C (100°F).
<b>10.2 Hazardous Polymerization:</b>	Will not occur
<b>10.3 Incompability:</b>	Avoid contact with strong oxidizing agents.
<b>10.4 Decomposition products :</b>	Products of thermal decomposition and/or combustion can include hydrogen chloride, hydrogen fluoride, hydrogen cyanide, and oxides of nitrogen, and carbon.

## 11. TOXICOLOGICAL INFORMATION

<b>11.1 Toxicity:</b>	
<b>Acute Oral</b>	LD50 Rat, 668 mg/kg
<b>Acute Dermal</b>	LD50 Dermal Rat, > 4,000 mg/kg
<b>Acute Inhalation</b>	LC50 male Rat, 1.384 mg/l, 4 h
<b>Eye Irritation :</b>	Rabbit : Non- irritating
<b>Skin Irritation:</b>	Rabbit: Highly irritant
<b>and sensitization:</b>	guinea pig: not sensitizing

**11.2 Long term toxicity:** Did not show carcinogenic, teratogenic or mutagenic effects in animal experiments.

## 12. ECOLOGICAL INFORMATION

### 12.1 Ecotoxicity :

- Birds:** Dietary LC50 (bobwhite quail) = > 7000 mg/L  
 Oral LC50 (mallard duck) = > 3,500 mg/L.  
 (This indicates that Lambda Cyhalothrin is only slightly toxic to most bird species.)
- Fish** 96-hour LC50 (rainbow trout) = 0.36 µg/L.  
 96-hour LC50 (bluegill sunfish) = 0.21 µg/L.  
 48-hour EC50 (daphnia magna) = 0.36 µg/L.  
 (This indicates that Lambda Cyhalothrin is highly toxic to fish and other aquatic organisms.)
- Daphnia** EC50 Daphnia magna (Water flea), 1.8 Ig/l , 48 h  
 Based on test results obtained with similar product.
- Bee** Highly toxic to honeybees. Do not apply where bees will be exposed to product.

**12.2 Degradability:** Degradation half life: 7 d. Lambda-cyhalothrin is not persistent in water.  
 Degradation half life : 56 d. Lambda-cyhalothrin is not persistent in soil.

## 13. DISPOSAL CONSIDERATION

**13.1 Product disposal:** Do not contaminate ponds, waterways or ditches with chemical or used container. Do not dispose of waste into sewer.  
 Where possible recycling is preferred to disposal or incineration.  
 If recycling is not practicable, dispose of in compliance with local regulations.

**13.2 Contaminated packages:** Empty remaining contents. Triple rinse containers.  
 Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

## 14. TRANSPORT INFORMATION

### 14.1. Land Transport

- ADR/RID:**
- UN number** 1993
- Shipping name:** FLAMMABLE LIQUID, N.O.S. (SUBSTITUTED BENZENOID HYDROCARBONS AND LAMBDA-CYHALOTHRIN)
- Packing Group** III
- Class** 3
- Environmentally hazardous:** Environmentally hazardous

- 14.2 Sea Transport**  
**IMDG:**  
**UN number** 1993  
**Shipping name:** FLAMMABLE LIQUID, N.O.S. (SUBSTITUTED BENZENOID HYDROCARBONS AND LAMBDA-CYHALOTHRIN)  
**Packing Group** III  
**Class** 3  
**Marine Pollutant** Marine pollutant
- 14.3 Air transport**  
**IATA-DGR:**  
**UN/ID no.** UN1993  
**Shipping name:** FLAMMABLE LIQUID, N.O.S. (SUBSTITUTED BENZENOID HYDROCARBONS AND LAMBDA-CYHALOTHRIN)  
**Packing group** III  
**Class** 3

<b>15. REGULATORY INFORMATION</b>
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- 15.1 Symbols** T Toxic  
 N Dangerous for the environment
- 15.2 Labelling according to EC Directives** Hazardous components which must be listed on the label:  
 • solvent naphtha (petroleum), light arom.  
 • lambda-cyhalothrin
- 15.3 Risk Phrases:**  
**R 10** Flammable  
**R 22** Harmful if swallowed  
**R 23** Toxic by inhalation.  
**R 37/38** Irritating to respiratory system and skin.  
**R 41** Risk of serious damage to eyes.  
**R 50/53** Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment  
**R 65** Harmful: may cause lung damage if swallowed.
- 15.4 Safety phrases:**  
**S 2** Keep out of the reach of children.  
**S13** Keep away from food, drink and animal feedingstuffs.  
**S20/21** When using do not eat, drink or smoke.  
**S 26** In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
**S35** This material and its container must be disposed of in a safe way.  
**S39** Wear eye/face protection.  
**S45** In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
**S57** Use appropriate container to avoid environmental contamination.



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**16. OTHER INFORMATION**

**Disclaimer:**

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall we be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if we have been advised of the possibility of such damages.