



## MATERIAL SAFETY DATA SHEET

<b>PRODUCT</b>	: LAMBDA-CYHALOTHRIN 50EC
<b>EFFECTIVE DATE</b>	: March 2020
<b>REVISION NO</b>	: 5
<b>PAGES</b>	: 6

### 1. IDENTIFICATION OF SUBSTANCE AND COMPANY

- Product Name: LAMBDA-CYHALOTHRIN 50EC
- Common Name : Lambda - cyhalothrin
- Chemical Name(IUPAC) : [1a(S\*),3a(Z)-(±)-cyano(3-phenoxyphenyl) methyl 3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethyl-cyclopropanecarboxylate] (CA).
- Supplier : **NOVA AGRO (HK) LTD.**  
6th Floor Wyndham Place, 44 Wyndham Street, CENTRAL HONG KONG.
- Tel/Fax : (27) 83-676 1998
- E-mail : jflouw1@gmail.com
- National Poison Centre (27) 0 800 333 444

### 2. COMPOSITION / INFORMATION ON INGREDIENTS

- Cas No. : 91465-08-6
- Chemical Family : Synthetic pyrethroid.
- Chemical Formula :  $C_{23}H_{19}ClF_3NO_3$
- Use : Insecticide
- Symbols : H, N
- Risk-Phrase(s) : R10, 20, 22, 36.

### 3. HAZARDS IDENTIFICATION

- Toxicity class : II. Moderate oral and low
- Skin contact : dermal and inhalation
- Ingestion : toxicity.  
Mildly irritating.  
Toxic if ingested.
- Inhalation : Toxic if inhaled.

### 4. FIRST AID AND MEDICAL MEASURES AND PRECAUTIONS

- **Inhalation:** Remove victim to fresh air. If not breathing, give oxygen. Obtain medical attention.
- **Skin contact:** Wash material off the skin with plenty of soap and water. Obtain medical attention. Wash contaminated clothing and decontaminate footwear before reuse.
- **Eye contact:** Immediately flush with plenty of water for at least 15 minutes. If redness, itching or a burning sensation develops, have eyes examined and treated by medical personnel.
- **Ingestion:** Rinse mouth with water. Dilute by giving 1 or 2 glasses of water. Do not induce VOMITING. Never give anything by mouth to an unconscious person. See a medical doctor immediately.
- **Advice to physician:** Inducing vomiting to remove this preparation from the stomach can increase the risk of chemical pneumonitis and pulmonary edema due to aspiration of stomach contents. The active ingredient in this compound, if allowed to penetrate the skin may stimulate the nerve fibers in the skin, causing an irritation similar to that of sunburn. The active ingredient will be drawn readily into a non-polar environment such as a fat based oil or cream. Water is highly polar and after a prolonged period of time will not decrease and may prolong the irritation. Treat discomfort due to irritation symptomatically.

### 5. FIRE FIGHTING MEASURES

- **Fire and explosion:** Moderately combustible. When heated above the flash point, this material releases vapours which, when mixed with air, can burn or be explosive.
- **Extinguishing agents:** Carbon dioxide, foam, dry chemical, halogenated agents. Water spray may be used to cool containers, but a water stream may spread flames.
- **Fire fighting:** Isolate fire area. Evacuate down wind. Do not breathe smoke, gases, or vapours generated.
- **Personal protective equipment:** A self-contained breathing apparatus and suitable protective clothing must be worn in fire conditions.



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## 6. ACCIDENTAL RELEASE MEASURES

- **Personal precaution:** Keep unnecessary people away. Isolate hazard area and deny entry. Do not smoke. Avoid contact and inhalation of the product. Ventilate closed spaces before entering.
- **Environmental precaution:** Avoid dispersion. Lambda-cyhalothrin is toxic to fish and bees. In case of accidental spill, prevent the material from getting into lakes, rivers and other bodies of water and to areas where a bee population may be present. Isolate discharged material and keep material out of water sources. Prevent product from entering drains. Do not graze or feed clippings from treated areas to livestock.
- **Occupational spill:** Wear protective equipment.  
Small spillages: Absorb on inert absorbing material such as sand or clay. Shovel up into covered containers for disposal.  
Large spillages: Should be dammed –off and pumped into containers; soal up remainder with absorbent material and dispose of in accordance with local regulations.

## 6. HANDLING AND STORAGE REQUIREMENTS

- **Handling:** Avoid contact with skin and eyes. When using do not eat, drink or smoke. Wash face and hands before eating, drinking or smoking
- **Storage:** Keep in original containers, tightly closed, out of reach of children. Keep away from food, drink and animal feeding stuffs. Containers should be stored in a cool, dry, well-ventilated area away from flammable materials and sources of heat or flame. Exercise due caution to prevent damage to or leakage from the container.

## 7. EXPOSURE CONTROL / PERSONAL PROTECTION

- **Personal protective equipment:** This product is FIFRA regulated. Refer to product labelling for end-user Personal Protection requirements. Skin contact should be prevented through the use of footwear, impervious gloves and long-sleeved clothing.

**Respirator:** For splash, mist, or spray exposure wear, as a minimum, a properly fitted half-face or full-face air-purifying respirator which is approved for pesticides. Respirator use and selection must be based on airborne concentrations

**Clothing:** Depending upon concentrations encountered, wear coveralls or long-sleeved uniform and head covering. For larger exposures as in the case of spills, wear full body cover barrier suit, such as a PVC rain suit. Leather items – such as shoes, belts and watchbands – that become contaminated should be removed and destroyed. Launder all work clothing before reuse ( separately from household laundry).

**Gloves:** Wear chemical protective gloves made of materials such as nitrile, neoprene etc. Thoroughly wash the outside of gloves with soap and water prior to removal. Inspect regularly for leaks.

**Eye protection:** Eye contact with the material should be avoided through the use of chemical safety glasses, goggles or a face shield, selected in regard to exposure potential.

*Emergency eye wash:* Where there is any possibility that a worker's eyes may be exposed to this substance, the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

## 8. PHYSICAL AND CHEMICAL PROPERTIES

- **Appearance** : Transparent yellow to amber liquid.
- **Odour** : Aromatic
- **Explosive properties** : Non-explosive.
- **Oxidising properties** : Non-corrosive
- **pH** : 6.0-7.5 (20<sup>0</sup>C, 5% sol.)
- **Viscosity** : Not available
- **Surface tension** : Not available
- **Relative density** : 0.9 g/cm (25<sup>0</sup>C)
- **Storage stability** : Stable for min. of 2 years under normal storage conditions.
- **Suspensibility** : Not applicable.
- **Dilution stability** : Relatively stable. Do not however keep mixture overnight.



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- Solubility in water : Emulsifies.
- Solubility in organic solvents : Not applicable.
- Partition-coefficient in n-octanol /water : n.a.
- Flash point : 29°C

## 9. STABILITY AND REACTIVITY

- Stability: Stable for a min. of 2 years under normal storage conditions.
- Incompatibility: Strong oxidizing agents.
- Thermal decomposition: High thermal stability.

## 10. TOXICOLOGICAL INFORMATION

- Acute oral LD<sub>50</sub> : Rats (male) 79 mg/kg ; rats (female) 56 mg/kg (Tech.)
- Acute dermal LD<sub>50</sub> : Rats 1293-1507 mg/kg (Tech.)
- Acute inhalation LC<sub>50</sub> (4 h) : 0.06 mg/l air (Tech.)
- Acute skin irritation : Slight irritant (rabbit)
- Acute eye irritation : Moderately irritant (rabbit).
- Dermal sensitisation : Mild skin sensitiser (guinea pig).
- Carcinogenicity: No carcinogenic effects have been noted in studies on various test animals (rats, rabbits, dogs).
- Teratogenicity: No teratogenic effects were observed in studies in rats and rabbits at the highest doses tested in both species (15 mg/kg/day and 30 mg/kg/day respectively).
- Mutagenicity: Lambda-cyhalothrin produced negative results in all Ames mutagenicity assays using five different test strains.

## 11. ECOLOGICAL INFORMATION

- Degradability: Moderately persistent in the soil environment. Reported field half-lives range from 4 to 12 weeks. It has an extremely low water solubility and is tightly bound to soil and is therefore not likely to be prevalent in surface waters.

- Mobility: Lambda-cyhalothrin is unlikely to be very mobile due to its high degree of soil adsorption.
- Accumulation: The product does not accumulate in the environment.
- **Ecotoxicology:**
- Birds Toxicity ranges from slightly toxic to practically non-toxic. LD<sub>50</sub> in mallard duck is > 3950 mg/kg.
- Fish Very highly toxic to many fish species. Reported LC<sub>50</sub>'s are as follows: blue-gill sunfish 0.21 ug/l; rainbow trout 0.24 ug/l.
- Bees Highly toxic to bees with a oral LD<sub>50</sub> of 38 ng/bee and a contact LD<sub>50</sub> of 909 ng/ bee.
- Daphnia Highly toxic with a LC<sub>50</sub> of 0.36 ug/l.
- Algae Not available.
- Earthworms Not available.

## 12. DISPOSAL CONSIDERATION

- **Pesticide disposal:** Open dumping or burning of this material or its packaging is prohibited. If spilled material can not be disposed of by use according to label instructions , an acceptable method of disposal it to incinerate in accordance with local, state, and national environmental laws, rules, standards and regulations. However, because acceptable methods of disposal may vary by location and regulatory requirements may change, the appropriate regulatory agencies should be contacted prior to disposal
- **Container disposal:** Non-returnable containers which held this material should be cleaned, prior to disposal, by triple-rinsing. Containers which held this material may be cleaned by being triple-rinsing and recycled, with the rinsate being incinerated. Do not cut or weld metal containers. Vapours that form may create an explosion hazard.

## 13. TRANSPORT INFORMATION

- UN Number : 52:4
- ADR/IRD : ;

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- IMDG/IMO : ;
- ICAO/IATA : ;
- Packing Group : III

## 17. REFERENCES

- *The Pesticide Manual*; 13th Edition; Editor Clive Tomlin; Crop Protection Publications, 2003.
- *Pestline*. Material Safety Data Sheets for Pesticides and Related Chemicals; Volume II; Occupational Health Services Inc., 1991.
- *Agriculture and Public Health*; Guide to the Treatment of Poisoning by Chemicals, 1993.
- EXTOXNET, Revised June 1996.

## 14. REGULATORY INFORMATION

- Symbol : H, N
- Indication of danger : Harmful; dangerous to the environment

### *Risk phrases:*

- R10 : Flammable.
- R20/22 : Harmful by inhalation and if swallowed.
- R36 : Irritating to eyes.

### *Safety phrases:*

- S2 : Keep out of reach of children.
- S36/379 : Wear suitable protective clothing and gloves.
- S45 : Seek medical advice immediately in case of an accident or if you feel unwell.
- S61 : Avoid release to the environment.

## 15. PACKING AND LABELLING

Packed in UN-approved 250 ml, 500 ml and 1 liter fluorinated high density polyethylene (HDPE) containers in a carton.