1. IDENTIFICATION OF COMPANY & PRODUCT

Product Name: Lambda-cyhalothrin 5%EC  
Chemical Name: (R)-α-cyano-3-phenoxybenzyl (1S, 3S)-3-[(Z)-2-chloro-3, 3, 3-trifluoropropenyl]-2, 2-dimethylcyclopropanecarboxylate and (S)-α-cyano-3-phenoxybenzyl (1R, 3R)-3-[(Z)-2-chloro-3, 3, 3-trifluoropropenyl]-2, 2-dimethylcyclopropanecarboxylate  
Brand Name: TANJA-50  
Users: Insecticide  
Molecular Formula: C23H19ClF3NO3  
Manufacturer: CROP LIFE SCIENCE LTD.  
Address: Plot No. 5165, 5166, 5151, G.I.D.C., Ankleshwar-393002  
Gujarat, India  
Tele Fax Number: 91 2646 238479

2. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Cas #</th>
<th>Percent Or Content(W/W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lambda-cyhalothrin</td>
<td>91465-08-6</td>
<td>5</td>
</tr>
<tr>
<td>Petroleum Solvent</td>
<td>----</td>
<td>&gt;50.0</td>
</tr>
<tr>
<td>Inert Ingredients</td>
<td>----</td>
<td>Q.S.</td>
</tr>
</tbody>
</table>

3. HEALTH HAZARDS IDENTIFICATION

Harmful if inhaled or swallowed. Moderate irritate to eyes. May cause skin irritation May cause temporary itching, tingling, burning or numbness in exposed areas (paresthesia). It is very toxic to aquatic organisms.

4. FIRST AID MEASURES

Eye Contact: If in eyes, hold eye open and rinse slowly and gently with eyewash solution or clean water for at least 15 minutes. Call a poison center or doctor for treatment if necessary.

Skin Contact: Take off all contaminated clothing immediately. Wash skin immediately with plenty of water, such action is essential to minimize contact with skin. Contaminated clothing should be washed before re-use.
Inhalation: Move patient from exposure to fresh air, keep warm and at rest. If patient is not breathing, give artificial respiration, preferably mouth-to-mouth if possible. Call a poison center or doctor for treatment if necessary.

Ingestion: If swallowed, seek medical advice immediately and show this Data sheet, if possible. Do not give anything by mouth to an unconscious person. Do not induce vomiting.

Note to physician: There is no specific antidote. Treat symptomatically.

5. FIRE FIGHTING MEASURES

Keep fire exposed containers cool by spraying with water.

Extinguishing Media: For small fires, use foam or water-fog; avoid use of water jet. Contain run-off water with, for example, temporary earth barriers.

Fire Fighting Protective Equipment: A self-contained breathing apparatus and suitable protective clothing must be worn in fire conditions.

6. ACCIDENTAL RELEASE MEASURES

Personal protection: Ensure suitable personal protection during removal of spillage. This means precautions: wearing eye protection, chemically resistant gloves, boots and coveralls.

Clean up Methods: Adsorb spillage onto sand, earth or any suitable adsorbent material. Transfer to a container for disposal. Wash the spillage area with water. Washings must be prevented from entering surface water drains.

In case of spill or leak: Control the spill at its source. Contain the spill to prevent it from spreading, contaminated soil, or entering sewage and drainage systems or any body of water. Clean up spills immediately. Spillage or uncontrolled discharges into watercourses must be alerted to the Department of Water Affairs/Environment.

7. HANDLING AND STORAGE

Read the label before use. Avoid contact with skin and eyes. When using, do not eat, drink or smoke. Wash face and hands before eating, drinking or smoking.

Safe storage: Store the material in a well-ventilated, secure, cool and dry 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 using and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling. Store under lock and key. Keep in original container, tightly sealed.

**Storage Life**

Physical and chemically stable for at least 2 years when stored in the original unopened sales container at ambient temperatures.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

When using this product refer to the label for details.

**Ingestion**

Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material.

**Eye contact**

Where eye contact is likely, use chemical splash goggles. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

**Skin contact**

Where contact is likely, wear chemical-resistant (such as nitrile 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. Unprotected contact with such translocated material can result in paresthesia effects.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state**

Light amber homogeneous transparent liquid with aromatic odour.

**Vapor pressure**

200nPa (20 °C); 200uPa (60 °C)

**Flash point**

> 55 °C

**Viscosity**

2.4 mPa: In water

**pH**

5-6.5

**Density**

0.906 g/cm³

**Solubility**

In water: 0.005mg/L (PH 6.5)

In buffer water: 0.004mg/L (PH5)

In organic solvent: 500mg/L (21 °C)

**Boiling point**

159-160 °C
10. STABILITY AND REACTIVITY

**Stability**: stable on standard conditions. It can keep over 2 years at common temperature. Hazardous decomposition products: it can decompose at high temperatures forming toxic gases.

**Hazardous Polymerization**: will not occur.

**Materials to avoid**: Product reacts with: Oxidizing agents

**Hazardous decomposition Products**: No hazardous decomposition products known.

11. TOXICOLOGICAL INFORMATION

**Acute Toxicity (Lethal Doses)**
- Oral Medial Lethal Dose female rats: 668 mg/kg Harmful if swallowed.
- Dermal Medial Lethal Dose rats (both genders): > 5000 mg/kg Unlikely to be hazardous by skin absorption.
- LC50 Inhalation female rats (4 hours): > 1.384mg/L Unlikely to cause harmful effects when handled and used as directed on the label

**Acute Toxicity (Irritation, Sensitization etc.)**
- **Eye irritation**: Mild irritant to rabbit eyes.
- **Skin irritation**: Moderate irritant to rabbit skin. Skin sensitization - Buehler: It is not a skin sensitizer in animal tests. Other effects: In humans may cause tingling or numbness in exposed area (paresthesia). The effect may result from splashes, or transfer to face from contaminated gloves or hands. This effect is transient, lasting up to 24 hours.

**Chronic Toxicological Effects / Long-Term Exposure**
- Long-term exposure: No long-term risks to man are associated with this material when handled and used as directed on the label. It is non-teratogenic, non-mutagenic and non-carcinogenic to animals.

12. ECOLOGICAL INFORMATION

**Effects on birds**: It is non-toxic to slightly toxic to birds.

**Effects on other animals**
(Non-target species) : It is highly toxic to bees.

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<table>
<thead>
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<tbody>
<tr>
<td>LC50 (Rainbow trout):</td>
<td>0.36 mg/l</td>
</tr>
<tr>
<td>EC50 (Daphnia):</td>
<td>0.32 mg/l</td>
</tr>
<tr>
<td>EC50 (Algae: <em>Selenastrum capricornutum</em>):</td>
<td>&gt;1000 mg/l</td>
</tr>
<tr>
<td>Other Aquatic Organisms:</td>
<td>Very toxic to aquatic organisms.</td>
</tr>
</tbody>
</table>

### 13. DISPOSAL CONSIDERATIONS

**Product:** Agrochemical waste containing dangerous substances. The listed waste code numbers, according to the European Waste Catalogue, are to be understood as a recommendation. A final decision must be made in agreement with the regional waste disposal company.

**Packaging:** Completely discharge containers. Do not reuse product container.

### 14. TRANSPORT INFORMATION

**Maritime transport IMDG**

- **UN No:** UN3082,
- **Class:** primary-: 9 Miscellaneous Dangerous Goods,
- **UN Pack. Group:** III, P.S.N, LIQUID, N.O.S, (Contains lambda-cyhalothrin 5% EC).
- **Marine Pollutant:** Yes.
- **Road transport ADR/RID**
  - **UN No.:** UN3082

**IMO class/Packaging:** Class: 6.1, Packaging: III

**P.S.N:** 3082 LIQUID, N.O.S LAMBDA-CYHALOTHIN MIXTURE

**Air transport ICAO/IATA**

- **UN number:** 3352
- **Class:** 6.1
- **Packaging group:** III
- **Proper shipping name:** Pyrethroid pesticide, liquid, toxic substance Lambda-Cyhalothrin.

### 15. REGULATORY INFORMATION

**Danger Group II (SABS 0028-1990)**

**Classification:** Harmful
Risk Phrases:
R22 : Harmful if swallowed.
R38 : Irritating to skin.

Safety Phrases:
S2 : Keep out of reach of children.
S13 : Keep away from food, drink and animal feeding stuff.
S20/21 : When using, do not eat, drink or smoke.
S36/37/39 : Wear suitable protective clothing, gloves and eye/face shield.
S28 : After contact with the skin, wash with plenty of water.
S46 : If swallowed seek medical advice immediately and show this container or label.
S053 : Do not re-use container, keep tightly closed in a safe place.

16. OTHER INFORMATION

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith and believed to be correct. This information applies to the PRODUCT AS SUCH. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produces formulations containing this product, it is the recipient’s sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.