

INDOFIL CHEMICALS COMPANY
 KOLSHET, OFF SWAMI VIVEKANAND ROAD,
 AZAD NAGAR, SANDOZ BAUG P.O.,
 THANE – 400 607. MAHARASHTRA (INDIA)
 TEL. NO. : 00-91-22-6799 9100
 FAX NO. : 00-91-22-2589 83 57 / 59



MATERIAL SAFETY DATA SHEET

2-R&D-MSDS- AGRO-FP- 438

| SECTION 1. PRODUCT IDENTIFICATION | | |
|--|---|---|
| Chemical Name | 3-(2-chloro-3,3,3-trifluoro – 1 – propenyl)-2,2-dimethyl cyclopropanecarboxylic acid, cyano(3-phenoxyphenyl) methyl ester. | Company Identification INDOFIL CHEMICALS COMPANY KOLSHET, OFF SWAMI VIVEKANAND ROAD, AZAD NAGAR, SANDOZ BAUG P.O., THANE – 400 607. MAHARASHTRA (INDIA) TEL. NO. : 00-91-22-6799 9100 FAX NO. : 00-91-22-2589 83 57 / 59 |
| Trade Name | Agent +/- santri | |
| Synonyms | Cyhalothrin 5.0% EC | Chemical classification: Pyrethroid (Insecticide) |
| IUPAC | (RS)-α -cyano-3-phenoxybenzyl (Z)-(1RS,3RS)-(2-chloro-3,3,3- =trifluoropropenyl)-2,2- dimethylcyclopropanecarboxylat | |
| CAS Number | 68085-85-8 | |
| Formula | C ₁₃ H ₁₉ ClF ₃ NO ₃ | |

SECTION 2. COMPOSITION / INFORMATION OF INGREDIENTS

| COMPONENT NAME | CAS REGISTRY NO | CONCENTRATION |
|-----------------------|------------------------|----------------------|
| Cyhalothrin | 68085-85-8 | 5.0% EC |
| | | |
| | | |

SECTION 3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Physical state : Liquid

Colour :

Odor threshold : NA

Harmful or fatal if swallowed - can enter lungs and cause damage

Contact can cause eye or skin irritation

IMMEDIATE HEALTH EFFECTS

| | |
|---------------------|---|
| Eye contact | This material can cause eye irritation with tearing, redness or a stinging or burning feeling. . |
| Skin contact | Prolonged or repeated skin contact may cause irritation. |
| Ingestion | Swallowing this material may be harmful. Swallowing this material may cause stomach or intestinal upset with pain , nausea , and / or diarrhea. This material can get into the lungs during swallowing or vomiting. Ingestion can cause temporary CNS depression, drowsiness, and changes in the liver and weight loss. |
| Inhalation | Breathing high concentrations may be harmful. Inhalation can cause irritation of nose and throat |

DELAYED OR OTHER HEALTH EFFECTS

| | |
|---------------|-------|
| Target organs | ----- |
|---------------|-------|

An "X" in the box adjacent to the hazard title indicates OSHA Hazard classification. If no "X" is present, the product does not exhibit the hazard as defined in the OSHA Hazard Communication standard (29 CFR 1910.1200)

| | |
|-----------------------------------|-------------------------------------|
| OSHA Health Hazard Classification | OSHA Physical Hazard Classification |
|-----------------------------------|-------------------------------------|

| | | | |
|------------------------------------|---------------------------------------|---|---|
| Toxic <input type="checkbox"/> | Highly Toxic <input type="checkbox"/> | Flammable <input type="checkbox"/> | Oxidizer <input type="checkbox"/> |
| Irritant <input type="checkbox"/> | Sensitizer <input type="checkbox"/> | Combustible <input type="checkbox"/> | |
| Corrosive <input type="checkbox"/> | Carcinogenic <input type="checkbox"/> | Explosive <input type="checkbox"/> | Organic Peroxide <input type="checkbox"/> |
| | | Pyrophoric <input type="checkbox"/> | unstable <input type="checkbox"/> |
| | | Organic peroxide <input type="checkbox"/> | water-reactive <input type="checkbox"/> |

| SECTION 4 : FIRST AID MEASURES | |
|---------------------------------------|---|
| Eye | Wash eyes immediately with large amount of water. |
| Skin | Promptly wash the contaminated skin using soap or water, remove the affected clothing promptly and wash the skin with soap and water. |
| Ingestion | If swallowed, repeatedly induce vomiting by giving the victim a tablespoon of salt in a glass of warm water until vomit fluid is clear. |
| Inhalation | Remove the exposed person from the area to the fresh air. Perform artificial respiration. |
| Symptoms of Poisoning | Headache, nausea, vomiting, dizziness, tremors possible with diarrhea |
| Notes to physician | Atropine tab / injection. Treat symptomatically. |

| SECTION 5 : FIRE FIGHTING MEASURES | |
|---|--|
| NFPA Flammability Classification | ----- |
| NFPA RATINGS | Health: 1 Flammability :1 Reactivity: 1 |
| OSHA classification | |
| Flash point | > 65°C |
| Flammability (Explosive limits) | - |
| Auto ignition Temperature | NA |
| Hazardous Combustion products | CO ₂ , F ₂ CN etc. |
| Extinguishing Media | Small fire : Use dry chemicals , carbon dioxide , foam, Large fire : Use Foam , dry chemicals, carbon dioxide |
| Protection of Fire Fighters | Wear NIOSH / MSHA approved self-contained breathing apparatus and full protective clothing. |
| Special Properties | Unusual fire and explosion hazards In fire situations, toxic oxides of nitrogen, ethylene thiourea. |

| SECTION 6 : ACCIDENTAL RELEASE MEASURES | |
|--|---|
| Protective Measures | Eliminate all sources of ignition in the vicinity of the spill. If this material is released into the work area, evacuate the area immediately. |
| Spill Management | Wear a NIOSH/MSHA approved dust respirator and all appropriate protective equipment . Do not touch or walk through spilled material . prevent spilled material from entering waterways , sewers, basements or confined areas. Clean up spill as soon as possible. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations |

| SECTION 7 : HANDLING AND STORAGE | |
|---|--|
| Handling | <p>A spill can cause an immediate fire or explosion hazard. Keep containers closed and do not handle or store near heat, sparks or any other potential ignition sources. Use only with adequate ventilation and personal protection. Avoid contact with eyes, skin, and clothing. Prevent contact with food and tobacco products. Do not reuse empty bag</p> <p>When performing repairs and maintenance on contaminated equipment, Keep unnecessary persons away from area. Eliminate all potential ignition sources. Use gloves constructed of impervious materials and protective clothing if direct contact is anticipated. Provide adequate ventilation. Promptly remove contaminated clothing. Wash exposed skin thoroughly with soap and water after handling.</p> |
| Storage | <p>Storage temperature maximum 40°C Do not store at < 0° Provide mechanical local exhaust at point of contaminant (vapor or mist) release.</p> |

| SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION | |
|---|---|
| Engineering controls | <p>Provide exhaust ventilation or other engineering controls. An emergency eye wash station and safety shower should be located near the work-station .</p> |
| Personal Protective Equipment | <p>Eye Protection: Wear eye protection such as safety glasses, chemical goggles, or face shields if engineering controls or work practices are not adequate to prevent eye contact. Contact lenses should not be worn when working with this chemical</p> <p>Hand protection: Avoid skin contact .Use gloves. Wash hands with plenty of mild soap and water before eating, drinking, use of toilet facilities or leaving work.</p> <p>Body protection: Avoid skin contact. Wear long-sleeved fire-retardant garments. Additional chemical-resistant protective gear may be required. This may include an apron, boots and additional facial protection.</p> <p>Respiratory Protection: Dust / mist filtering respirator or a NIOSH approved respirator .</p> <p>Work practices: users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside . Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash outside of gloves before removing. As soon as possible wash thoroughly and change into clean clothing. Deluge safety shower and eye wash station should be located in work area</p> |

Occupational exposure limits

| | | | |
|-------------|-------|--|--|
| Component | Limit | | |
| Cyhalothrin | NA | | |

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|-----------------------------------|-----------|------------------------------|---------|
| Physical state | Liquid | Colour | |
| Odor | NA | PH | Neutral |
| Specific gravity (water=1) | 0.91 | Solubility in water | 20°C |
| Vapor pressure @ (mm Hg) | Not known | Vapor density (air=1) | -- |
| Viscosity | -- | Boiling point | 120°C |
| Melting point | -- | | |

SECTION 10: STABILITY AND REACTIVITY

| | |
|---|--------------------|
| Chemical stability | Stable |
| Conditions to Avoid | NA |
| Material Incompatibility | Others |
| Hazardous Decomposition Products | Data not available |
| Hazardous Polymerization | Strong acids |

SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---------------|
| Acute Oral toxicity | 56 (Oral-Rat) |
| Acute Dermal toxicity | |
| Acute Inhalation toxicity | |
| Eye irritation: This material is irritating to the eyes Skin irritation: This material is irritating to the skin | |

SECTION 12: ECOLOGICAL INFORMATION

| | |
|---------------------------|--|
| Ecotoxicity | Contamination of both terrestrial and marine environments should be avoided. |
| Environmental fate | No data |

SECTION 13: DISPOSAL CONSIDERATIONS

Discard with normal trash or landfill according to Local, State and Federal Regulations.

SECTION 14 : TRANSPORT INFORMATION

| | |
|-----------------------------------|--|
| | Not regulated as a hazardous material by any mode of transportation. It is not a marine pollutant. Export water (IMO) : Not regulated Air (ICAO / IATA) : Not regulated |
| DOT Shipping Name | Not regulated |
| DOT Hazard class | Not regulated |
| DOT identification number | No data |
| DOT packing Group | No data |
| DOT additional information | No data |

SECTION 15: REGULATORY INFORMATION

| | |
|---|---|
| TSCA Inventory | No data |
| SARA 311/312 Hazard Identification | Immediate (acute) health effects: yes Delayed (chronic) health effects : yes Reactive: yes This product contains the substances subject to the reporting requirements of SARA title 3 , section 313 and 40 CFR part 372. |
| SARA 302/304 Emergency planning and notification | No data |
| SARA 313 Toxic chemical notification and Release reporting | This product contains the following components in concentrations above that are listed as toxic chemicals in 40 CFR part 372 pursuant to the requirements of section 313 of SARA. |
| CERCLA | No data |
| Clean air act (CAA) | Not applicable |

SECTION 16: OTHER INFORMATION

| | | | |
|---------------------|---|-----------------|---------------|
| NFPA RATINGS | Health : 1 | Flammability :1 | Reactivity :1 |
| HMIS RATINGS | Health : 1 | Flammability :1 | Reactivity :1 |
| | 0 = Least 1= slight 2= Moderate 3= High 4=Extreme | | |

ABBREVIATIONS

| | |
|-------|---|
| STEL | Short term exposure limit |
| ACGIH | American conference of Government Industrial Hygienists |
| NIOSH | National institute of safety and health |
| SARA | Super fund Amendments and Reauthorization Act |
| TWA | Time weighted average |
| OSHA | Occupational safety and health |
| NFPA | National Fire protection agency |
| HMIS | Hazardous Materials information system |
| RCRA | Resource conservation Recovery act |
| TSCA | Toxic substance Control Act |
| WHMIS | Work place Hazardous Materials information system |
| IRAC | International Agency for Research on Cancer |

MANUFACTURE'S / SUPPLIER'S DATA

| | | | | |
|---|--------------------|---|----------------------|--|
| Name of Firm : INDOFIL CHEMICALS COMPANY | | | | |
| Mailing Address : Kolshet, Off Swami Vivekanand Road, Azad nagar, Sandoz Baug P.O. Thane – 400 607. | | Gat No. 194, Village – Gahunje, Tal. Maval, Dist. Pune. | | S-26 (T), MIDC, Bhosari, Pune – 411 026. |
| Telephone 6799 9100 | Telex | | Telephone 22767 5084 | Telephone 22712 2302 |
| Fax 2589 8357 | Telegraphic Code | | Fax 22767 5083 | Fax 22712 9242 |
| Local Bodies Involved | Collector of Thane | | | |

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