

SHOGUN

ORGANICS LIMITED

Prallethrin Technical

MATERIAL SAFETY DATA SHEET

SECTION 1: IDENTIFICATION OF THE SUBSTANCE AND COMPANY INFORMATION

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| Product Name | Prallethrin Technical |
| Company | Shogun Organics Ltd. |
| Address | A 106 Kotia Nirman, New Link Road, Andheri(w), Mumbai – 400 058 , India |
| Website | www.shogunorganics.com |
| Telephone Number | + 91 22 6677 6746 |
| Fax Number | + 91 22 6677 6847 |
| Use | Technical grade Active Ingredient for household insecticide products |

SECTION 2 : HAZARDS IDENTIFICATION

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| Classification | Moderately Hazardous . Harmful if swallowed and toxic by inhalation. |
| ADG Classification | Classified as Dangerous |

SECTION 3 : INGREDIENTS

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| Name | PRALLETHRIN / ETOC |
| IUPAC Name | (S)-2-methyl-4-oxo-3-prop-2-ynylcyclopent-2-enyl (1R)-cis,trans-2,2-dimethyl -3-(2-methylprop-1-enyl)cyclopropanecarboxylate |
| Purity | 90% w/w minimum |
| CAS Number | 23031-36-9 |

SECTION 4: FIRST AID MEASURES

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| Symptoms and Effects | There can be slight redness or whiteness of the skin in the area of exposure. Irritation may occur at the site of contact. High absorption through the skin may be fatal. Can cause pain with eye contact. The eyes may water. If ingested, can cause soreness and redness of the mouth and throat. There may be vomiting, convulsions or loss of consciousness. With inhalation, there may be shortness of breath with a burning sensation in the throat. Absorption through the lungs |
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| | can occur causing symptoms similar to those of ingestion. |
| First Aid | If poisoning occurs, immediately contact a doctor and follow the advice given. Show this Material Safety Data Sheet to a doctor. |
| General | In case of accident or if you feel unwell, seek medical advice immediately |
| Inhalation | <u>If inhaled</u> , remove from contaminated area to fresh air. If any signs or symptoms occur or persist, seek medical advice. |
| Skin | <u>If on skin</u> remove contaminated clothing and wash skin thoroughly with soap and water. Launder contaminated clothing before re-use. Seek medical advice if irritation develops. |
| Eye | <u>If in eyes</u> hold eyes open and flood with water for at least 15 minutes and seek medical advice. |
| Ingestion | <u>If swallowed</u> , do not induce vomiting. Wash mouth with water. Seek medical advice. |
| Note to Physician | Apply basic aid and decontamination procedures. Treat symptomatically. |

SECTION 5: FIRE FIGHTING MEASURES

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| Fire and Explosion Hazards | Flash point: 139°C Autoignition Temperature: 354 °C |
| Extinguishing Media | Dry chemical powder, carbon dioxide. For Large fires : Water fog, spray or foam |
| Unsuitable Extinguishing | Water with full waterjet. |
| Hazardous Decomposition / Combustion Products | This product is combustible. May emit toxic and irritating fumes under fire conditions |
| Protective Equipment | Ensure respiratory equipment is available. Evacuate immediate area. Wear full protective equipment, including breathing apparatus. See Section 8. |
| Fire Fighting | Advise Fire Brigade of nature of hazard. Surrounding containers should be cooled using a fine water spray. All run-off must be contained. |

SECTION 6 : ACCIDENTAL RELEASE MEASURES

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| Spills | Stop the source of the spill if it is safe to do so. Contain the spill to prevent further contamination of the soil, surface water, or ground water. Wear personal protective equipment as specified in Section 8. Do not allow material to enter sewers or bodies of water. |
| Small Spills | Apply absorbent inert material such as soil, |

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| | dry sand or vermiculite to the spill area. Sweep up material when absorption is complete and contain in a refuse vessel for disposal. If necessary, wash the spill area with an alkali detergent and water and absorb and contain as above. |
| Large Spills | Place leaking containers into salvage drums. Apply absorbent inert material such as soil, dry sand or vermiculite to the spill area. Form a barricade around spill and in front of drains or waterways in spill vicinity, using soil or other non reactive material. Sweep up material and contain in a refuse vessel for disposal. Contact emergency services as required. |
| Disposal | Contaminated material must be disposed of in accordance with all State and/or Local regulations. |

SECTION 7: HANDLING AND STORAGE

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| Handling | Keep out of reach of children, unauthorised persons and animals. After handling and before eating, drinking or smoking wash hands, arms and face thoroughly with soap and water. For personal protection see Section 8. |
| Storage Requirements | Store in the closed, original container in a dry, cool, well ventilated area, out of direct sunlight. Do not store near food, feedstuffs, fertiliser or seed. |

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

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| Engineering Controls | Provide adequate ventilation. Keep container tightly closed. |
| Exposure Limits | No exposure limits have been established for this material. |
| <i>Personal Protection :</i> | |
| Respiratory | Use only in well ventilated areas. Wear a mask with organic vapour cartridge. |
| Hand | Wear protective gloves |
| Eye | Avoid contact with eyes. Eye contact can be avoided by wearing protective eyewear. |
| Skin and Body | Avoid contact with skin or clothing. Skin contact should be minimised by wearing protective clothing including gloves, long sleeved shirt, long pants and chemical resistant boots. |
| Other Information | Laundry clothes before reuse. |

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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| Appearance | Viscous liquid |
| Colour | Yellow to brown |
| Odour | Substantially odourless |
| Boiling point / range | 313°C |
| Melting point / range | Liquid at room temperature |
| Flammability | NA |
| Explosive Properties | NA |
| Explosion Limits | NA |
| Oxidising Properties | NA |
| Vapour Pressure | 1.0 x 10 ⁻⁴ mmHg at 30°C |
| Density | 1.03 g/mL (20°C) |
| Solubility in water | almost insoluble 0.00803g/l at 25°C at pH5.5-5.6 |
| Solubility in other solvents | Soluble (in most organic solvents) |
| Partition coefficient n-octanol / water | log POW = 4.49 at 25°C and pH 5.6-5.9 |

SECTION 10: STABILITY AND REACTIVITY

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| Stability | Stable under recommended storage and handling conditions. (See Section 7) |
| Conditions to avoid | Avoid direct sunlight, exposure to flames, heat and high temperatures. |
| Materials to avoid | Oxidizing and Alkaline materials. |
| Hazardous Decomposition | Emits toxic fumes under fire conditions (See also Section 5). |

SECTION 11: TOXICOLOGICAL INFORMATION

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| Acute Toxicity | |
| Oral | LD ₅₀ (male) 640 mg/kg bw (Rat) |
| Dermal | LD ₅₀ (male) >5000 mg/kg bw (Rat) |
| Inhalation | LC ₅₀ (male) 855 (Rat) |

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| Irritation | |
| Skin | Not irritant (rabbit) |
| Eye | Minimal irritant (rabbit) |
| Sensitisation | Non-sensitising (guinea pig) |

SECTION 12: ECOLOGICAL INFORMATION

Do not contaminate streams, rivers or waterways with the chemical or used containers.

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| Ecotoxicity | |
| Fish | Highly toxic to fish. |
| Daphnia | Highly toxic to aquatic invertebrates. |

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| Environment | |
| Mobility | Readily absorbed into soil. |
| Persistence and degradability | Degrades by sunlight in soil with a half life of approx. 25 days. Degrades by sunlight in water with a half life of 13.6 hours. |

SECTION 13: DISPOSAL CONSIDERATIONS

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| Product | This material must be disposed of as a hazardous waste. Disposal should be in accordance with local, national or state regulations. |
| Contaminated Packaging | Puncture, or shred and bury empty containers in a local authority landfill. If not available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose, clear of waterways, desirable vegetation and tree roots. Empty containers and product should NOT be burnt. |

SECTION 14: TRANSPORT INFORMATION

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| Road and Rail Transport | |
| UN Number | 3352 |
| Class | 6.1 |
| Hazchem Code | 2X |
| Proper Shipping Name | Pyrethroid pesticide liquid, toxic |
| Packaging Group | III |
| Poisons Schedule Number | 6 |

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| Sea and Air Transport | |
| UN Number | 3352 |
| Class | 6.1 |
| Proper Shipping Name | Pyrethroid pesticide liquid, toxic |
| Packaging Group | III |
| Poisons Schedule Number | 6 |

SECTION 15: REGULATORY INFORMATION

Product is registered with the Central Insecticide Board Registration Committee , Ministry of Agriculture , Government of India.

SECTION 16: OTHER INFORMATION

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| Date | 22 June 2011 |
| Abbreviations | NA – Not Applicable / Not Available |

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