

**MATERIAL SAFETY DATA SHEET**  
**CYPERMETHRIN 10% EC**

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**1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY**

<b>Identification of the substance</b>	: Cypermethrin 10% EC
<b>Use of the substance</b>	: Insecticide
<b>Manufacturer/supplier</b>	: Tagros Chemicals India Limited
<b>Address</b>	: Tagros Chemicals India Ltd. "Jhaver Centre", Rajah Annamalai Building, IV Floor, 72, Marshalls Road, Egmore, Chennai-600 008, India
<b>Emergency telephone number</b>	: +91-44-42007400
<b>Fax number</b>	: +91-44-28587873
<b>E-mail</b>	: info@tagros.com

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**2. HAZARDS IDENTIFICATION**

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POTENTIAL HEALTH EFFECTS: EMERGENCY OVERVIEW

<b>Eyes</b>	: Moderate-irritant to eyes
<b>Skin</b>	: Non-irritant to skin
<b>Ingestion</b>	: Harmful if swallowed. Can cause stomach irritation resulting in nausea, cramps and vomiting. Large doses may cause nasal and respiratory irritation.
<b>Inhalation</b>	: May be fatal if inhaled.
<b>Environment</b>	: Dangerous for the environment. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	EC No.	Classification	Con. % w/v
Cypermethrin, (( <i>RS</i> )- $\alpha$ -cyano-3-phenoxybenzyl ( <i>1RS,3RS;1RS,3SR</i> )-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate	52315-07-8	257-842-9	Xn; R20/22 Xi; R37 N; R50-53	10.0
Others	-----	-----	-----	90.0

### 4. FIRST AID MEASURES

<b>Contact with eyes</b>	: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Avoid exposing affected eyes to bright light. Seek medical advice and show the container or this material safety data sheet.
<b>Contact with skin</b>	: Remove contaminated clothing and wash the affected area with warm water and alkaline soap. Call a doctor for treatment advice.
<b>Ingestion</b>	: Call a doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by doctor. Do not give anything by mouth to an unconscious person.
<b>Inhalation</b>	: If inhaled, remove to fresh air and keep at rest. Obtain medical aid if required.

### 5. FIRE FIGHTING MEASURES

<b>Flash point</b>	: >45°C
<b>Extinguishing media</b>	: If product is involved in a fire, use water spray, foam, dry powder, carbon dioxide or sand.
<b>Special exposure hazards</b>	: Thermal decomposition products may emit toxic fumes of hydrogen cyanide and oxides of carbon and nitrogen.

- Protective equipment for fire-fighting** : Do not breathe fumes. Wear self-contained breathing apparatus.
- Fire fighting guidance** : Keep out of smoke. Fight fire from upwind position. Cool closed containers/tanks exposed to fire with water spray. Do not allow run-off to enter drains or water courses.

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## 6. ACCIDENTAL RELEASE MEASURES

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- Personal precautions** : Avoid contact with spilled material or contaminated surfaces. If ordinary clothing becomes contaminated, remove it immediately. When dealing with the spillage do not eat, drink or smoke and wear personal protective clothing as detailed in section 8.
- Environmental precautions** : Keep people and animals away. Prevent entry into drains, sewers and watercourses.
- Methods for cleaning up** : **Small Spill:** Sweep or vacuum up spillage and collect in suitable container for disposal.
- Large Spill:** Prevent further leakage or spillage. Use approved industrial vacuum cleaner for removal. Shovel into suitable container for disposal.

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## 7. HANDLING AND STORAGE

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- Handling** : Wear chemically impervious gloves, safety glasses, goggles or face shield. Mechanical ventilation should be used when handling this product in enclosed spaces. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using the toilet. Remove personal protective equipment (PPE) immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing. Read all precautions and instructions on the label.

**Storage** : Store the material in a well ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco product in the storage area. Prevent eating, drinking, chewing and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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**Exposure limit value** : ADI: 0.02 mg/kg bw (JMPR)

**Engineering controls** : Mechanical ventilation should be used when handling this product in closed spaces

**Respiratory protection** : Use a NIOSH approved respirator in absence of mechanical ventilation.

**Hand protection** : Wear chemical-resistant gloves such as barrier laminate, butyl rubber, nitrile, neoprene rubber, polyvinyl chloride (PVC).

**Eye protection** : Wear safety goggles with imperforated side shield and face shield.

**Skin protection** : Avoid contact with skin. Wear apron, boots and full protective suit.

**Environmental exposure controls** : Keep away from food, drink and animal feed stuff. This material and its container must be disposed off as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheet.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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<b>Physical state</b>	: Liquid
<b>Color</b>	: Yellow
<b>Odour</b>	: Aromatic
<b>Molecular Weight</b>	: 416.3 (Cypermethrin)
<b>Solubility</b>	: Emulsify in water
<b>pH</b>	: 4.6
<b>Relative density</b>	: 0.98 g/ml
<b>Partition coefficient</b>	: $K_{ow} \log P = 0.57$ at 21 °C (cypermethrin)
<b>Flash point</b>	48°C

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## 10. STABILITY AND REACTIVITY

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<b>Stability</b>	: Cypermethrin relatively stable in neutral and weakly acidic media with optimum pH 4.
<b>Conditions to avoid</b>	: Avoid excessive heat and flame
<b>Materials to avoid</b>	: None under normal condition of use.
<b>Incompatibility</b>	: Hydrolysed in alkaline media.

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## 11. TOXICOLOGICAL INFORMATION

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<b>Acute toxicity</b>	
<b>Rat LD<sub>50</sub> oral, Rats</b>	: >300-2000 mg/kg bw
<b>Rat LD<sub>50</sub> dermal, Rats</b>	: >2000 mg/kg bw
<b>Skin irritation</b>	: Non-irritant to skin of rabbits
<b>Eye irritation</b>	: Moderate irritant to eye of rabbits

<b>Skin sensitization</b>	: Non-sensitiser to skin of Guinea pigs
<b>Long term studies</b>	
<b>Carcinogenicity</b>	: Non-carcinogenic in rat and mice
<b>Mutagenicity</b>	: Non-mutagenic
<b>Reproductive toxicity</b>	: Non-reprotoxic and teratogenic

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## 12. ECOLOGICAL INFORMATION

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### Ecotoxicity

<b><i>Cyprinus carpio</i>, 96 hours</b>	: LC <sub>50</sub> : 0.53 µg/l (Cypermethrin technical)
<b><i>Daphnia magna</i>, 24 hours</b>	: EC <sub>50</sub> : 0.13 µg/l (Cypermethrin technical)
<b><i>Chlorella vulgaris</i>, 72 hours</b>	: EC <sub>50</sub> : 26.41 µg/ml (Cypermethrin technical)
<b>Bees, 24 hours (oral)</b>	: LD <sub>50</sub> : 0.035 µg/bee (Cypermethrin technical)
<b>Mobility</b>	: Cypermethrin has very low vapour pressure and water solubility and is strongly adsorbed from aqueous solutions by solid surfaces. This drastically restricts its movement in air and water, and particularly in soils.
<b>Persistence and degradability</b>	: DT <sub>50</sub> 60 d (fine sandy loam), river water, rapid degradation occurs, DT <sub>50</sub> c 5 d. Little likelihood of cypermethrin or its metabolites persisting for lengthy periods in soils.

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## 13. DISPOSAL CONSIDERATIONS

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<b>Product disposal</b>	: Do not empty into drains or waterways. Disposal off product would usually be by incineration in an appropriate licensed commercial incinerator. Advice may be obtained from local waste regulation authorities.
<b>Container disposal</b>	: Lightly contaminated packaging may be accepted for landfill, otherwise incineration will be required.



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## 14. TRANSPORT INFORMATION

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<b>UN number</b>	: 3351
<b>UN class</b>	: 6.1
<b>UN packaging group</b>	: III
<b>Proper Shipping Name</b>	: PYRETHROID PESTICIDE, LIQUID, TOXIC, FLAMMABLE
<b>Additional information</b>	: Cypermethrin designated as marine pollutant

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## 15. REGULATORY INFORMATION

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<b>Classification</b>	: Xn: Harmful N: Dangerous for the environment
<b>Risk Phrases</b>	: R10: Flammable R22: Harmful if swallowed R43: May cause sensitisation by skin contact. R50/53: Very toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment.
<b>Safety Phrases</b>	: S2: Keep out of the reach of children S24: Avoid contact with skin S36/37/39: Wear suitable protective clothing, gloves and eye/face protection S60: This material and its container must be disposed of as hazardous waste S61: Avoid release to the environment. Refer to special instructions/safety data sheets
<b>Reference regulation</b>	: Regulation (EC) No 1907/2006

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## 16. OTHER INFORMATION

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**MSDS first issued** : 08<sup>th</sup> April 2002

**MSDS data revised** : 22<sup>nd</sup> September 2012

### **DISCLAIMER**

The above information is intended to give general health and safety guidance on the storage and transport of the substance or product to which it relates. It is not intended to apply to the substance or product for which purposes the substance or product label and any appropriate technical usage literature available should be consulted and any relevant licenses, consents or approvals complied with. The requirement or recommendation of any relevant site or working procedure, system or policy in force or arising from any risk assessment involving the substance or product should take precedence over any of the guidance contained in this safety data sheet where there is a difference in the information given. The information provided in this safety data sheet is accurate at the date of publication and will be updated as and when appropriate. No liability will be accepted for any injury loss or damage resulting from any failure to take account of information or advice contained in this safety data sheet.

