**Saudi Delta Company for Chemical Industries**
3rd industrial city– Riyadh- Saudi Arabia
P.O. Box. 355 809 Riyadh 11383 -
Tel: (01) - 2654533 Fax (01) 2654532
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# Product Safety Data Sheet

## 1. Chemical product and company identification

**1.1. Prepared Date : June . 6 . 2008**
**1.2. Product information : -**
**Trade name : Cypermax-100 EC**

**1.3. Information about manufacturer / supplier :**

**Saudi Delta Company for Chemical Industries**
Riyadh – Saudi Arabia – 3rd Industrial City
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P.O. Box 355809 Riyadh 11383 Saudi Arabia

## 2. Information on ingrediants

**2.1. Chemical properties (Component substances)**

The product is a mixture of one active ingrediant , emulsifiers , and solvent

- Cypermethrin: 10% w/v ( Non systemic insecticide with contact and stomach action )
- Emulsifiers: 7% w/v ( Anionic / non- ionic type )
- Aromatic Solvent: Up to 100% v

**2.1.1. Cypermethrin:-**

- Chemical Name : (RS )-α- Cyano - 3 - phenoxybenzyl (1RS ) cis, trans -3- ( 2,2- dichlorovinyl) -2, 2-dimethylcyclopropanecarboxylate (IUPAC ) .
- CAS No.: 52315-07-8
- Mol. Formula : C22H19 Cl 2 NO 3
- Mol. wt .: 416.3
- Physical Form : yellow - brown viscous semi-solid ( Technical 93% )
- Melting Point : 60-80ºC ( tech. )
- Vapour Pressure : 2.3 X 10-7 Pa at 20ºC

**Structural Formula:**

- Specific Gravity : 1.23 at 20º C
- Kow logP = 6.6
- Solubility : In water 0.004 mg/L (pH 7 ) . In acetone , chloroform , cyclohezanone, xylene > 450, ethanol 337, hexane 103 (all in g / L at 20º C ) .
- Stability : Relatively stable in neutral and weakly acidic media , with optimum stability at pH=4 . Hydrolyzed in alkaline media .Relatively stable to light . Thermally stable up to 220 oC.
- Flash point : Not auto-flammable ; non-explosive .

**2.1.2. Emulsifiers :**

A combined anionic/nonionic emulsifiers specially intended for formulation of pesticide .

Composition : 15-30% calcium dodecyl benzenesulfonate .
10-20% n-Butanol .
30-60% polyalkyleneoxidederivative .
Appearance : Clear yellow-brown liquid and cloudy yellow liquid
Density : 0.99-1.01 gm/ml (20 °C)
Flash point : 37 °C .
Pour point : 2-3 °C .
Viscosity : 1150 mPa s .
Solubility : Soluble in Isopropanol , Octanol , water , and exylene in soluble in kerosene and mineral oil

**2.1.3. Aromatic Solvent ( Xylene ):**

CAS No. : 68920-06-9 SHA : 086803
Composition : Dimethylbenzene (ortho , meta , and para isomers).
Properties : Volatile . Petroleum distillate (75-100% aromatic hydrocarbon) , B.P. : 175-300 °F

## 3. Hazard Identification

3.1. **Dangerous Substances**: Cypermethrin has alow mammalian toxicity.
3.2. Important Hazardous: Solvent may be present aspiration hazardous.
3.3. **Sings and Symptoms of over-exposure** :

Pyrethroids have generally low toxicity to mammals , forming the basis of their favorable selectivity . Although all pyrethroids are convulsants they can be divided into two major classes based on neurophysiological toxicological , and pharmacological effects in a variety of spicies .
The non cyano pyrethroids (type I) include the agents permethrin and tetramethrin and cause hyperactivity, tremor and predominantly clonic convulsions. And the pyrethroids containing ∝-cyano substitunet (type II) include the agents cypermethrin, tetramethrin , and fenvalerate have nerve effects and toxicological manifestations, and the signs of poisoning resemble those of pycrotoxinin and include salivation, hyperactivity , choreoathetosis , and clonic/tonic convulsions .

## 4. First aid Measures

**Eyes** : immediately flush for 15 minutes with large amount of water .
**Skin** : remove all contaminated clothing atonce ; thoroughly wash with soap and water
**Ingestion** : Don't induce vomiting or administer liquids .

Vomiting should be induced only under professional supervision. Keep patient prone and quiet . Only a physician should induce vomiting as first aid for this slightly toxic substance due to increased risk of chemical pneumonia or pulmonary edema caused by aspiration of the hydrocarbon solvent .

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## 5. Fire Fighting Measures

**5.1. Extinguishing media :**

5.1.1. Suitable: Carbon dioxide, foam, water fog, dry chemical and halogenated agents.
5.1.2. Not to be used: Don't use water except in case important fire.
5.1.3. Protection against fire: Keep a way from sources of ignition.

## 6. Accidental Release Measures

6.1. **Personal precautionary measures** :

6.1.1. **Respiratory protection** : In case of insufficient ventilation weare apesticide respirator jointly approved by the local authorities .

6.1.2 **Protective gloves** : wear heavy duty , natural rubber gloves , or chemical resistant gloves such as Barrier laminate or Nitrile Rubber or. Neoprene rubber or viton .

6.1.3 **Eye protection** : wear safety goggles .

6.1.4. **Other protection** : wear water-proff pants , coat , hat , rubber boots or ruber overshoes.

6.2. **Environmental Precaution** : Stop any evertual leakage.

6.3. **After spillage / leakage on soil**: Liquid spillage should be damned off and pumped into containers; soak up remainder with absorbent material and dispose of in accordance with local regulations .

## 7. Handling and Storage

7.1. Don't apply when weather conditions favor drift from treated area . Don't contaminate lakes , streams , ponds . When using don't eat , drink , or smoke . Don't breath spray .

Wash hands and exposed skin before meals and after work.
Wash out container thoroughly and dispose of safety . Store in original container in a cool , dry , well-ventilated , secure area out of reach of children and animals store in original container , tightly closed in a safe place .

## 8. Exposure controls , Personal Protections .

8.1. **Personal Protection**: Don't breath spray, after treatment, wash and change clothes prior anything else like eating, drinking, or smoking.
8.2. **Respiratory Protection** : Wear a suitable mask.
8.3. **Skin Protection** : Wear a suitable protective clothing mask.
8.4. **Eye Protection** : Wear eye, face protection.
8.5. **Ingestion** : Don't eat, drink, or smoke during application.

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## 9. Physical and chemical properties

| | | |
|---|---|---|
| 9.1. | Shape | : Liquid |
| 9.2. | Colour | : Yellowish |
| 9.3. | Odour | : Aromatic odour |
| 9.4. | Product Use | : Insecticide |
| 9.5. | Melting point | : Not applicable |
| 9.6. | Boiling point | : Not available |
| 9.7. | Specific gravity ( 20o) | : 0.91 |
| 9.8. | Vapour pressure (mm Hg) | : Not available |
| 9.9. | Viscosity (CPS) 25 oC | : 30 |
| 9.10. | Solubility in water | : Forms white emulsion |
| 9.11. | Flash point oC | : > 25 oC |
| 9.12. | PH ( 1% aq. Emul. ) w/v | : 4-6 |
| 9.13. | Flammable limits | : Not available |

## 10. Stability and Reactivity

10.1. **Hazardous Decomposition**: Cypermax-100 EC is stable under normal conditions (25o), stable in neutral and slightly acidic media , stable to U.V.

10.2. **Dangerous products of decomposition** : Non known .

## 11. Toxicological Information

11.1. **Acute oral (LD50):** for rats 250-4150 ( tech. 7180 ) , mice 138 mg/kg .

11.2. **Skin and Eyes acute percutaneous(LD50):** for rats > 4920 , rabbits > 2460 mg/kg. Slight skin and eye irritant ( rabbits ) . May be a weak skin sensitiser .

11.3. **Inhalation (LC50):** (4 hr) for rats 2.5 mg/L

11.4. **NOEL (Tech)** : (2 years) for dogs 5 , rats 7.5 mg/kg

11.5. **ADI (JMPR):** 0.05 mg/kg b.w (1981)

11.6. **Toxicity class** : WHO II ; EPA II

11.7. **Other** : Oral toxicity values for cypermethrin depend on such factors as : Carrier, cis : trans ratio of the sample , species , sex , age , degree of fasting .

## 12. Ecological Data

12.1. **Birds** : Acute oral LD50 for mallard ducks > 10000 , Chickens >2000 mg/Kg .

12.2. **Fish** : LC50 ( 96 hr) for rainbow trout 0.69 , sheepshead minnow 2.37 µg/L .

12.3. **Bees** : Highly toxic to honeybee in laboratory tests , but field applications at recommended dosages do not put hives at risk . 24 hr. LD50 ( oral 0.035 µg/bee ; ( topical 0.02 µg/bee .

12.4. **Daphnia** : EC50 ( 48 hr ) 0.15 µg/L .

## 13. Disposal Considerations

13.1. Pesticides Disposal
Pesticide wastes are toxic . Improper disposal of excess pesticide , spray mixture , or rinsate is a violation of Federal law . If these wastes cannot be disposed of use according to label insturctions contact . Environmental Control Agency , or the Hazardous Waste representative at the nearest EPA Regional Office for guidance .

13.2. Container disposal
13.2.1. Metal containers : Triple rinse (or equivalent) . Then offer for recycling or reconditioning , or puncture and dispose of in a sanitary landfill , or by other procedures approved by local authorities. Do not cut or weld metal containers .
13.2.2. Plastic containers : Triple rinse (or equivalent) . Then offer for ercycling or reconditioning , or puncture and dispose of in a sanitary landfill , or incineration , or , if allowed by authorities , by burning . If burned, stay out of smoke .
13.2.3. Returnable / Refillable Sealed Containers : Don't rins container. Do not empty remaining formulated product . Do not break seals . Return intact to point of purchase .

## 14. Transport Information

| | | | |
|---|---|---|---|
| GGVE/GGVS : 6.1/III | | RID/ADR : 6.1 | |
| IMDG-Code :6.1/ III | EMS :---- | MFAG : ---- | |
| IATA/ICAO : 6.1 III | UN : ---- | PAX : ---- | CAO : ---- |

## 15. Regulatory Information

15.1. Toxicity Classifications : Moderately Hazardous
Warning Symbol : [X] [ ]
15.2. R-Phrase
R21/22 : Harmful in contact with skin and if swallowed
R36/38 : Irritating to eyes and skin .
R10 : Flammable
R20 : Harmful by inhalation
15.3 S-Phrase
S22 : Don't breath dust .
S26 : In case of contact with eyes , rinse immediately with plenty of water and seek medical advice .
S37/39 : Wear suitable gloves and eye / face protection ..
S25 : Avoid contact with eyes .

## 16. Other Information

Note to Physician :

Like the natural pyethrins , the synthetic derivative is expected to have relatively minor toxicity in humans ; in fact , any significant acute toxic effects are more likely from a carrier hydrocarbon solvent . Consequently , induction of vomiting may increase th likelihood of the most important toxic potential , chemical pneumonia , and so should either be avoided or done only under medical supervision . Ingestion of a large amount calls for gastric lavage , with care (Trendelenburg position , suction available , cuffed endotracheal tube if patient is unconscious) to avoid intrapulmonary as-poration . A saline cathartic (sodium or magnesium sulfate) , 15-30 gm dissolved in water should be given , as should 15-30 gm activated charcoal as a slurry in water . Digestible fats , oils or alcohol may increase absorption and so should . Skin contact (vapor or powder) may be followed by transient tingling or numbness , usually of the face , but this subsides without treatment .