



**Hangzhou Tianlong Biotechnology Co., Ltd.**

Add: Room 1906, Fengqi Times Tower, No.338, Fengqi East Road, Hangzhou, Zhejiang, China.

## MATERIAL SAFETY DATA SHEET

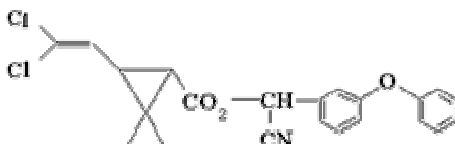
### 1. Chemical Product and company Identification

Product Name: Cypermethrin

Molecular Formula:  $C_{22}H_{19}Cl_{12}NO_3$

Molecular Weight: 416.3

Structural Formula:



Chemical Name: cyano-3-phenoxybenzyl-2,2-dimethyl-3-(2, 2-dichlorovinyl)-cyclopropane carboxylate

CAS No.: 52315-07-8

Supplier: HANZHOU TIANLONG BIOTECHNOLOGY CO., LTD

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### 2. Composition / Information on Ingredients

Composition	CAS No.	Content
Cypermethrin	52315-07-8	93.0%
Other ingredients		7.0

### 3. Hazards Identification

More important danger for the man: low toxicity to human;

Dangers for the environment: highly toxicity to bird, fish and bee; low accumulation;

Physical-chemical dangers: The substance decomposes on heating above 220°C, producing toxic fumes including hydrogen cyanide, hydrogen

chloride.

#### **4. First Aid Measures**

Skin: remove contaminated clothing and shoes, flush with plenty of water and soap.

Eyes: flush with plenty of clear water for 15-20 minutes.

Inhalation: move affected person to fresh air and keep at rest until recovered. If not breathing, give artificial respiration and get to a doctor.

Ingestion: do not induce vomiting; drink plenty of water. Then see doctor immediately.

#### **5. Fire-Fighting Measures**

Extinguishing media

To be used: water spray, foam, dry chemical powder and carbon dioxide.

Don't use: not applicable

Particular risk: none.

Measures of personal protection: safety glasses or goggles, rubber gloves, shoes plus socks, long-sleeved shirt, and long pants.

#### **6. Accidental Release Measures**

Personal cautions: The product is harmful if inhaled or swallowed. Will irritate the eyes, nose, throat and skin. Avoid inhaling spray mist. Keep people and animals away and upwind.

Cleaning methods

EX: clear the liquid formation. Transfer to a properly labelled deposit that will be closed and sealed until the recovery of elimination of the product.

Environmental cautions

EX: prevent the contamination of the floor and of beds of water.

#### **7. Handling And Storage**

Handling: Keep out of reach of children. Avoid contact with the eyes, skin and clothing and avoid inhalation of product or spray mist. If in eyes, wash it immediately with water. After handling and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. Do not contaminate food or use on household tanks.

Storage: Store in the closed, original container in a dry, cool, well-ventilated area, secure area at minimum storage temperatures. Store in locked room or place away from children, animals, food, animal feed, seed and fertilizers.

#### **8. Exposure Controls / Personal Protection**

PEL: not applicable

Personal protective equipment: full-length overalls

Respiratory protection: approved respirator.

Protective gloves: rubber gloves

Eye protection: safety goggles or face shield.

Industrial hygiene: ventilation

## 9. Physical And Chemical Properties

Appearance: Yellow to brown sticky liquid or crystal semi-solid.

Density: 1.24 (20°C);

Water Solubility: 0.01 mg/L @ 20 °C insoluble in water

Solubility in Other Solvents: methanol v.s.; acetone v.s.; xylene v.s.

Melting Point: 60-80°C (pure isomers)

Vapor Pressure:  $5.1 \times 10^{-7}$  nPa @ 70°C

Partition Coefficient: 6.6020

Adsorption Coefficient: 100,000

## 10. Stability And Reactivity

Conditions to avoid: avoid high temperature and flame;

Products to avoid: alkaline pesticides;

Thermal decomposition: 150~300°C;

Hazardous decomposition products: hydrogen cyanide, hydrogen chloride.

Hazardous reaction: none;

## 11. Toxicological Information

Acute oral LD50: rat 250-4150mg/kg

Acute dermal LD50: rat >4920mg/kg

Contact with the skin: slight irritation to skin of rabbit;

Contact with the eyes: slight irritation to eyes of rabbit;

Reproductive effects: No adverse effects on reproduction were observed in a three-generation study with rats given doses of 37.5 mg/kg/day, the highest dose tested.

Teratogenic effects: Cypermethrin is not teratogenic. No birth defects were observed in the offspring of rats given doses as high as 70 mg/kg/day nor in the offspring of rabbits given doses as high as 30 mg/kg/day .

Mutagenic effects: Cypermethrin is not mutagenic, but tests with very high doses on mice caused a temporary increase in the number of bone marrow cells with micronuclei. Other tests for mutagenic effects in human, bacterial and hamster cell cultures and in live mice have been negative.

Carcinogenic effects: EPA has classified cypermethrin as a possible human carcinogen because available information is inconclusive. It caused benign lung tumors in female mice at the highest dose tested (229 mg/kg/day); however, no tumors occurred in rats given high doses of up to 75 mg/kg/day.

Organ toxicity: Pyrethroids like cypermethrin may cause adverse effects on the central nervous system. Rats fed high doses (37.5 mg/kg) of the

cis-isomer of cypermethrin for five weeks exhibited severe motor incoordination, while 20 to 30% of rats fed 85 mg/kg died 4 to 17 days after treatment began. Long-term feeding studies have shown increased liver and kidney weights and adverse changes in liver tissues in test animals. Pathological changes in the cortex of the thymus, liver, adrenal glands, lungs, and skin were observed in rabbits repeatedly fed high doses of cypermethrin.

## **12. Ecological Information**

Effects on birds: Cypermethrin is practically non-toxic to birds. Its acute oral LD50 in mallard ducks is greater than 4640 mg/kg. The dietary LC50 in mallards and bobwhite quail is greater than 20,000 ppm. No adverse reproductive effects occurred in mallards or bobwhite quail given 50 ppm, the highest dose tested.

Effects on aquatic organisms: Cypermethrin is very highly toxic to fish and aquatic invertebrates. The LC50 (96-hour) for cypermethrin in rainbow trout is 0.0082 mg/L, and in bluegill sunfish is 0.0018 mg/L. Its acute LC50 in *Daphnia magna*, a small freshwater crustacean, is 0.0002 mg/L. Cypermethrin is metabolized and eliminated significantly more slowly by fish than by mammals or birds, which may explain this compound's higher toxicity in fish compared to other organisms. The half-lives for elimination of several pyrethroids by trout are all greater than 48 hours, while elimination half-lives in birds and mammals range from 6 to 12 hours. The bioconcentration factor for cypermethrin in rainbow trout was 1200 times the ambient water concentration, indicating that there is a moderate potential to accumulate in aquatic organisms. Elimination of half of the accumulated amount of the compound took nearly eight days. After 14 days 70 to 80% of the material had been eliminated from the organisms.

Effects on other organisms: Cypermethrin is highly toxic to bees.

## **13. Disposal Considerations**

Product: do not reuse product containers. Dispose of product containers, waste containers, and residues according to local environmental regulations.

## **14. Transport Information**

Class: 6.1

UN No.: 3352

Packing group: III

## **15. Regulatory Information**

Risk phrases:

Harmful by inhalation and if swallowed

May cause sensitization by skin contact

Very toxic to aquatic organisms

Safety phrases:

Keep locked up and out of the reach of children

Wear suitable protective clothing, gloves and eye/face protection

In case of accident or if you feel unwell seek medical advice immediately  
This material and its container must be disposed of as hazardous waste  
Avoid release to the environment

**16. Other Information**

All information and instructions provided in this 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 AAS AUCH. In case of formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons in 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.