



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

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

## MATERIAL SAFETY DATA SHEET

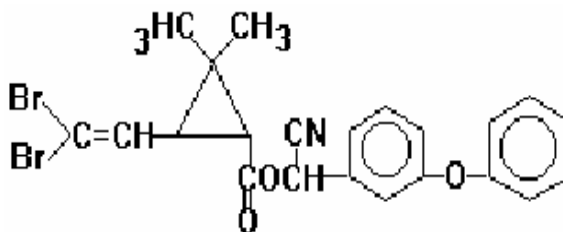
### 1. Chemical Product and company Identification

Product Name: Deltamethrin

Molecular Formula:  $C_{22}H_{19}Br_2NO_3$

Molecular Weight: 505.26

Structural Formula:



Chemical Name: (S) - -cyano-3-phenoxybenzyl (1R)-cis-3-(2, 2- dibromovinyl)-2,2-dimethylcyclopropane carboxylate

CAS No.: 52918-63-5

Supplier: HANZHOU TIANLONG BIOTECHNOLOGY CO., LTD

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### 2. Composition / Information on Ingredients

Composition	CAS No.	Content %
Deltamethrin	52918-63-5	98.0
Other ingredients		2.0

### 3. Hazards Identification

Route of entry: Ingestion, inhalation, contact with skin and eyes.

Harmful if swallowed. Causes moderate eye irritation. This product is extremely toxic to fish.

Environmental hazards: Very toxic to aquatic organisms.

### 4. First Aid Measures

Inhalation: The presentation as a solid tablet cannot, under normal handling, expose the user to the risk of contamination by inhalation.

Skin contact: If product of prepared spray or dip contacts skin wash area with soap and water.

Eye contact: The presentation as a solid tablet cannot under normal handling expose the user to contact with the eyes. Should spray or dipping solution contact eyes rinse immediately with plenty of water for at least 15 minutes, holding eye open. Seek medical advice.

Ingestion: Wash out mouth with water. Seek medical advice. If swallowed do not induce vomiting, give a glass of water and seek medical advice. Ensure airway is clear.

First Aid Facilities: Provide washing facilities in the workplace.

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

Extinguishing media: Water spray, carbon dioxide, foam, dry chemical. Do not use a water jet from a fire hose.

Hazards from combustion products: Heating/combustion will generate oxides of carbon and nitrogen, and other irritant and toxic fumes.

Precautions for fire fighters: Fire fighters should wear full protective clothing and self-contained breathing apparatus when dealing with large quantities of product. Do not release contaminated water into the environment. Keep intact containers cool by spraying with water.

## **6. Accidental Release Measures**

If packaged tablets are spilled return to original container. Avoid damaging packaging. If immediate packaging has been damaged sweep up into a suitable container, store and dispose of at a local authority landfill. If no landfill is available bury below 500mm in a disposal pit specifically designed and set up for this purpose clear of waterways, desirable vegetation and tree roots.

## **7. Handling and Storage**

Handling: Prepare spray and dipping solution in a well-ventilated area

Storage: Store product in the closed, original container in a safe, cool, well-ventilated area. Do not store for prolonged periods in direct sunlight.

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

Exposure standards: No exposure standard has been assigned by the National Occupational Health and Safety Commission. Aventis recommends an Occupational Exposure Standard for deltamethrin of 0.28 mg/m<sup>3</sup>.

Engineering controls: No special ventilation is required, as this product is not volatile. Control process conditions to avoid contact.

Personal Protective Equipment:

Eyes: Avoid contact with eyes.

Clothing: Full-length work-clothes should be worn during use.

Gloves: Waterproof gloves should be worn during use.

Respiratory: Not required.

Other: Do not eat, drink or smoke until after washing. Wash thoroughly after

handling. After use wash or dispose of gloves and wash contaminated clothing

## 9. Physical and Chemical Properties

Form: Solid

Color: White to off-white

Odor: Odorless

Boiling point: 300 °C

Density: 0.55mg/L@25°C

Water Solubility: less than 0.1 mg/l Insoluble: < 1 ppm at room temperature. 0.002 mg/l at 20 degrees C. Almost insoluble

Solubility in Other Solvents: in kerosene and isoalkanes, less than 0.5, isopropanol 0.6, ethanol 1.5, xylene 25, methylene chloride 70 (all in g/100 g at 20°C). In acetone 500g/l, benzene 450 g/l, dimethyl sulfoxide 450 g/l, cyclohexanone 750 g/l, dioxane 900 g/l all at room temperature, toluene 250 g/l

Melting Point: 98-101°C

Vapor Pressure: 2 x 10 to the minus 8 mbar at 25 °C

Partition Coefficient: 4.6 (25°C)

Adsorption Coefficient: Not Available

## 10. Stability and Reactivity

Incompatible with acids, alkalies, strong oxidising agents.

Chemical stability: Stable under normal conditions of use.

Conditions to avoid: Extreme heat

Incompatible materials: Avoid oxidising agents, strong acids and alkalis.

Hazardous decomposition products: Heating/combustion will generate oxides of carbon and nitrogen, and other irritant and toxic fumes.

## 11. Toxicological Information

Acute:

Oral toxicity: LD50 rat: 1965 mg/kg

Dermal toxicity: LD50 rat: > 2000 mg/kg

Inhalation toxicity: N/A

Skin irritation: Not irritating – rabbit Eye

irritation: Irritating – rabbit

Sensitization: Not sensitizing - guinea pig

Reproductive Effects: A reproductive 3-generation study in rats reported a reproductive NOEL to be greater than 2.5 mg/kg/day. Levels tested were 0, 0.1, 1.0 and 2.5 mg/kg/day. Oral administration of deltamethrin to mice on days 7 to 16 of gestation produced a dosage-related reduction of weight gain but no effect on the number of implants, fetal mortality, fetal weight or malformations.

Teratogenic Effects: There were no reported teratogenic effects in mice, rats and rabbits. Deltamethrin has no teratogenic activity .

Mutagenic Effects: There were no mutagenic effects in mice, rats and rabbits. Deltamethrin has no mutagenic activity.

Carcinogenic Effects: No information was available.

Organ Toxicity: Deltamethrin is hydrolyzed by liver microsomal enzymes to 3-(2,2-dibromovinyl) 2,2-cyclopropane carboxylic acid and 3-phenoxybenzaldehyde.

## 12. Ecological Information

Deltamethrin is highly toxic to fish and aquatic organisms.

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

Fish toxicity: LC50: 0.001 – 0.01 mg/L (96 h) fish

Daphnia toxicity: EC50 (48 hr): 0.0035 mg/L

Toxicity to algae: LC50 (72 hr): > 9.1 mg/L

Bird toxicity: LD50: > 5,000 mg/kg duck

LD50: > 10,000 mg/kg quail Bee

toxicity: Deltamethrin is toxic to bees.

Environmental fate, persistence and degradation:

Deltamethrin is not persistent in the environment. It is degraded by soil micro-organisms and does not leave residues in the environment or build up in the food chain.

## 13. Disposal Considerations

Dispose of packaging in the household garbage.

Dispose of spent dip by pouring over bare-soil or around non-food producing plants in the home-garden. Do not contaminate streams, rivers or waterways with the tablet or dip solution.

## 14. Transport Information

Class: 6.1

UN No.: 3349

Packing group: III

## 15. Regulatory Information

Risk phrases:

Toxic by inhalation and if swallowed

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Toxic to bees

Safety phrases:

Do not breathe dust

Avoid contact with skin

Avoid contact with eyes

## 16. Other Information

All information and instructions provided in this Material Safety Data Sheet

(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 as such. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on 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. If the recipient subsequently produce formulations containing this product, it is the recipients sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.