



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

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

## MATERIAL SAFETY DATA SHEET

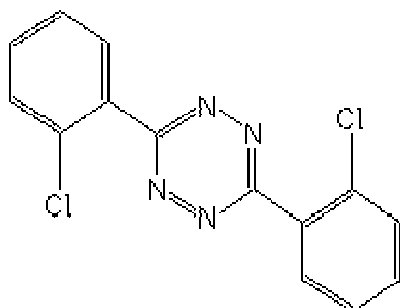
### 1. Chemical Product and company Identification

Product Name: Clofentezine

Molecular Formula: C<sub>14</sub>H<sub>8</sub>Cl<sub>2</sub>N<sub>4</sub>

Molecular Weight: 303.15

Molecular Structure:



Chemical Name: 3,6-bis(2-chlorophenyl)-1,2,4,5-tetrazine

CAS No.: 74115-24-5

Supplier: HANZHOU TIANLONG BIOTECHNOLOGY CO., LTD

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### 2. Composition / Information on Ingredients

Composition	CAS No.	Content %
Clofentezine	74115-24-5	98.0
Other ingredients		2.0

### 3. Hazards Summarizing

Emergency overview: Caution. Causes mild eye irritation. Avoid contact with eyes, skin or clothing. Harmful if swallowed or absorbed through skin.

Route of entry: Skin, mist inhalation.

Immediate effects:

Skin: May be a slight skin irritant. A weak skin sensitizer in animal studies.

Eyes: A slight eye irritant.

Inhalation: No specific health effects are known.

Ingestion: No specific health effects are known.

### 4. First Aid Measures

If inhaled: Keep patient calm, remove to fresh air. Assist in breathing if necessary. Consult a physician.

If on skin: Wash affected areas thoroughly with soap and water. Remove contaminated clothing. If irritation develops, seek medical attention.

If in eyes: Hold eyelids open to facilitate rinsing. Flush with copious amounts of water for at least 15 minutes. If symptoms persist, seek medical advice.

If swallowed: Rinse mouth and then drink plenty of water. Do not induce vomiting. Immediate medical attention required.

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

Extinguishing media and methods:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Fire and explosion hazards: Evolution of toxic fumes, which may include nitrogen oxides and hydrogen chloride.

Fire fighting instructions: Do not breathe fumes. Wear self-contained breathing apparatus. Spray containers with water to keep cool.

## **6. Accidental Release Measures**

Land spill or leak: Contain and absorb spillage with absorptive material. Use clean shovel and place into clean, dry containers for disposal. Wash the area with detergent and water. Do not allow spilled material to enter sewer or watercourse.

## **7. Handling and Storage**

Do not contaminate water, food or feed by storage or disposal.

Precautions to be taken in handling: Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

Pesticide storage: Store in original container, tightly closed, in a safe place.

Storage temperature: Normal ambient temperatures.

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

Personal Protective Equipment:

To avoid eye and skin contact, wearing the following personal protective clothing and equipment is recommended:

Eyes: Safety goggles or face shield

Clothing: Cotton overalls buttoned to the neck and wrist and a washable hat.

Gloves: Elbow length PVC gloves.

Respiratory: Respiratory protection is not normally required. If airborne concentrations are likely to exceed the exposure standard above, an AS/NZS 1715/1716 approved respirator should be worn.

Other: After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use wash gloves, goggles or face shield and contaminated clothing.

## **9. Physical and Chemical Properties**

Appearance: White crystalline or magenta colored powder

Melting Point: 182-186°C.

Vapour Pressure: 0.13mPa(25°C).

Stability: In water 0.001 mg/L. It is easily soluble in organic solvents.

#### **10. Stability and Reactivity**

Stability: Stable under normal conditions.

Conditions to avoid: None known

Material to avoid: None known

Hazardous polymerisation: Does not occur

Fire and explosion hazards: Evolution of toxic fumes, which may include nitrogen oxides and hydrogen chloride.

#### **11. Toxicological Information**

Acute toxicity:

Oral (rat) LD<sub>50</sub>: >5200mg/kg

Dermal (rat) LD<sub>50</sub>: >2100mg/kg

Sensitization: Not a sensitiser (guinea pigs)

Subchronic (target organ effects):

Results from 90 days animal studies suggest no target organ effects under the conditions of normal handling and use.

Chronic toxicity:

The product showed no adverse effect in a 115 weeks feeding study with rats at low dose levels of Clofentezine. At the highest test dose of 400 ppm, treated rats had increased liver weight and male rats showed a slight increase in incidence of thyroid follicular cell tumors; the later, however, is an indirect effect caused by stimulation of TSH hormone and is unlikely to occur in humans. EPA has interpreted this animal study result and placed Clofentezine technical in Carcinogenity Category C, a possible human carcinogen under chronic exposure to extreme experimental dose.

Similarly, in feeding studies with mice (105 weeks) and dogs (52 weeks), effects on organ weights were only observed at the highest test dose: female mice (5,000 ppm), increased liver weight, dogs (20,000 ppm), moderate liver toxicity, slight increases in adrenal weights (males) and thyroid weights (females).

Teratogenicity (birth defects): Clofentezine demonstrated no teratogenic effects in fetuses of rats and rabbits given up to 3200 mg/kg/day and 3000 mg/kg/day, respectively.

Reproductive effects: In a three-generation study in rats, Clofentezine showed no adverse effects on fertility or reproductive performance at dose levels up to 400 ppm.

Mutagenicity (genetic effects): Clofentezine was not mutagenic or genotoxic when tested in Ames gene mutation assay and four other mutagenesis systems.

## 12. Ecological Information

Acute toxicity:

LC<sub>50</sub> (96h) = 10 mg/l (rainbow trout)

LC<sub>50</sub> (96h) = 24 mg/l (bluegill sunfish)

LC<sub>50</sub> (96h) = 48 mg/l (daphnia magna)

Environmental hazards: For terrestrial uses, do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not apply within 100 feet of lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, and commercial fish farm ponds. Do not apply when weather conditions favor drift from treated area. Do not allow spray to drift off of crop, especially when spraying outer rows. Always direct spray into the orchard. Do not contaminate water when disposing of equipment washwaters or rinsate.

## 13. Disposal Considerations

Pesticide disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Ensure that the disposal is in compliance with federal requirements and state or local regulations.

Container disposal: Dispose of product containers, waste containers, and residues according to label instructions and local, state, and federal health and environmental regulations.

## 14. Transport Information

Class: 9

UN No.: 3077

Packing group: III

## 15. Regulatory Information

Risk phrase: Harmful by inhalation, in contact with skin and if swallowed.

Irritating to eyes, respiratory system and skin.

Toxic to aquatic organisms.

Safe phrase: Keep locked up and out of reach children.

Keep away from food, drink and animal feeding stuffs.

Do not breathe vapour/spray.

Avoid contact with skin and eyes.

Wear suitable protective clothing, gloves and eye/face protection.

Avoid release to the environment.

## 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.