



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

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

## MATERIAL SAFETY DATA SHEET

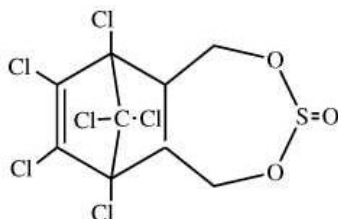
### 1. Chemical Product and company Identification

Product Name: Endosulfan

Molecular Formula:  $C_9H_6Cl_6O_3S$

Molecular Weight: 406.9

Structural Formula:



Chemical Name:

6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-6,9-methano-2,4,3-benzo dioxathiepin 3-oxide(IUPAC)

CAS No.: 115-29-7

Supplier: HANZHOU TIANLONG BIOTECHNOLOGY CO., LTD

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### 2. Composition / Information On Ingredients

Composition	CAS No.	Content %
Endosulfan	115-29-7	95.0
Other ingredients		5.0

### 3. Hazards Identification

May cause irritation to the eyes, skin and upper respiratory system.

Poisonous material. Effects from overexposure result from either swallowing, breathing or absorption through the skin. Symptoms include headache, weakness, abdominal cramps, nausea, excessive salivation, perspiration, blurred vision, tearing, I-point pupils, convulsions, tremor and coma.

Ingestion or vomiting may cause aspiration into the respiratory system causing mild to severe pulmonary injury.

### 4. First Aid Measures

Skin: Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention.

Eyes: First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.

Inhalation: Move affect 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 if the person is conscious. Give glass of water. Get to a doctor.

Notes to physician: No specific antidote if ingested. Treat symptomatically.

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

Extinguishing media

To be used: Powder, water spray, 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: Safety glasses or goggles, rubber gloves, shoes plus socks, long-sleeved shirt, and long pants.

Cleaning methods

EX: The empty container may be decontaminated by rinsing two or three times with water and detergent and scrubbing the sides.

Environmental cautions

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

## **7. Handling And Storage**

Handling: Do not apply to humans, their clothing, or bedding. Do not contaminate food or use on household tanks.

Storage: Store at normal temperatures, dry and dark place, away from children, domestic animals, food and feed products, seed and fertilizer. Do not contaminate other stored products or the storage area by handling or storage of this product. Keep in a well-ventilated room.

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

Personal protective equipment

Respiratory protection: Approved respirator

Protective gloves: Rubber gloves

Eye protection: Safety goggles or face shield.

Industrial hygiene: adequate ventilation.

## **9. Physical And Chemical Properties**

Appearance: Slight brown crystals, with sulfur dioxide odor;

Melting point: 70~100°C.

Density: 1.745;

Water solubility: Non-soluble in water;

Other solubility: Moderately soluble in most organic solvents.

Acidity:  $\leq 0.5\%$  (Calculated as  $H_2SO_4$ );

Flash point: non-inflammable;

Ignition temperature: not applicable

## 10. Stability And Reactivity

Conditions to avoid: flame, fire, moisture condition and high temperature.

Products to avoid: Incompatible with alkaline and acid materials;

Thermal decomposition: N/A;

Hazardous decomposition products: The substance decomposes on heating, alkaline and acid condition producing toxic fumes formation of the diol and sulfur dioxide.

Hazardous reaction: Corrosive to iron;

## 11. Toxicological Information

Contact with the skin: slightly irritant

Contact with the eyes: slightly irritant

Inhalation: N/A;

Ingestion: N/A;

Symptoms noted in acutely exposed humans include those common to the other cyclodienes, e.g., incoordination, imbalance, difficulty breathing, gagging, vomiting, diarrhea, agitation, convulsions, and loss of consciousness.

Effects for chronic toxicity: In rats, oral doses of 10 mg/kg/day caused high rates of mortality within 15 days, but doses of 5 mg/kg/day caused liver enlargement and some other effects over the same period.

Reproductive: It is unlikely that endosulfan will cause reproductive effects in humans at expected exposure levels.

Mutagenicity: evidence suggests that exposure to endosulfan may cause mutagenic effects in humans if exposure is great enough.

Teratogenicity: Teratogenic effects in humans are unlikely at expected exposure levels.

Carcinogenic: It appears that endosulfan is not carcinogenic.

## 12. Ecological Information

Aquatic organisms:

Highly toxic ( $LC_{50}$  (96 h) for golden orfe 0.002 mg/l water) but, in practical

use, should be harmless to wildlife.

Bird: Acute oral LD<sub>50</sub> for mallard ducks 200-750mg/kg, ring-necked pheasants 620-1000 mg/kg.

Other Animals (Non-target species)

Bee: Non-toxic to bees under field conditions at an application rate of 1.6 L/ha (560 g Endosulfan/ha);

Earth worms: NOEC 0.1 mg/kg dry weight.

### **13. Disposal Considerations**

Material which can not be used at the site should be disposed of in an approved waste disposal facility following all applicable Local regulations. If burned, stay out of smoke. Do not contaminate water supplies by disposal of wastes or containers.

### **14. Transport Information**

Hazard Class: 6.1

UN No.: 2761

Packing group: III

### **15. Regulatory Information**

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.