



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

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

## MATERIAL SAFETY DATA SHEET

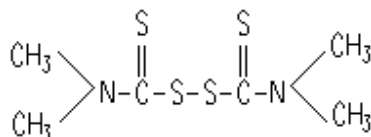
### 1. Chemical Product and company Identification

Product Name: Thiram

Molecular Formula:  $C_6H_{12}Cl_2N_2S_4$

Molecular Weight: 240.7

Structural Formula:



Chemical Name: tetramethylthiuram disulfide.

CAS No.: 137-26-8

Supplier: HANZHOU TIANLONG BIOTECHNOLOGY CO., LTD

Address: Room 1906, Fengqi Times Tower, No.338 Fengqi East Road, Hangzhou, China, 310020

Tel: 0086-571-87214516

Fax: 0086-571-87079476

### 2. Composition / Information on Ingredients

Composition	CAS No.	Content %
Thiram	137-26-8	98.0
Other ingredients		2.0

### 3. Hazards Summarizing

Emergency overview: Causes eye irritation. May be harmful if swallowed, inhaled or absorbed through the skin. May cause skin and respiratory tract irritation. May cause allergic skin reaction. May cause damage to blood, liver and kidneys based on animal studies.

Not defined as flammable or combustible but will burn under fire conditions. Very high concentrations of dust in the air may present a dust

### 4. First Aid Measures

Inhalation: If affected, remove from contaminated area to fresh air. Seek medical advice.

Skin contact: wash affected skin areas with soap and water. Consult a physician if irritation persists. Remove and wash contaminated clothing thoroughly before reuse.

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Seek medical attention.

Ingestion: If swallowed, rinse mouth with water. Give large quantities of

water or if available, milk, egg white or gelatin. Do not induce vomiting unless told. Keep patient at rest and do not give anything by mouth to unconscious persons. Seek medical attention.

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

Extinguishing media: Dry chemical, foam, CO<sub>2</sub>, water spray or fog.

Special fire fighting procedures: Evacuate area of all non-emergency personnel. Firefighters should wear full emergency equipment and NIOSH approved positive pressure self-contained breathing apparatus. Fight fire from upwind and cool exposed intact containers and structures with water spray or stream at maximum range. Decontaminate all protective equipment after use, prevent skin contact. This product is toxic to fish. Contain all water run-off with diking.

Unusual fire and explosion hazards: Decomposition products are toxic. Very high concentrations of this product suspended in air may present an explosion hazard.

## **6. Accidental Release Measures**

Steps to be taken in case material is released or spilled: Wear appropriate protective clothing as described in Section 8 to prevent eye and skin contact and appropriate respirator to prevent overexposure. Isolate area and keep out unprotected persons. Stop leak at source. Carefully sweep up dry spilled material and collect into labeled containers for proper disposal. If liquid, dike and absorb with inert material. This material is toxic to fish. Prevent run-off to storm sewers and ditches leading to natural waterways. Report spill as required by local and federal regulations.

## **7. Handling and Storage**

Handling: Wash hands before eating, drinking, chewing gum, tobacco usage, cosmetic application, or using the toilet. Remove all clothing if pesticide gets inside then wash thoroughly and change into clean clothing. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Storage: Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excessive heat. Carefully open containers. After partial use, fold and roll back bags, clamp and close tightly. Do not put concentrate into food or drink containers. Do not contaminate water, food or feed by storage or disposal.

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

Engineering Controls: Use with appropriate local or general exhaust to maintain exposures below exposure limits.

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: Creamy white powder. No odor.

Melting point: 155-156°C.

Stability: slightly soluble in carbon disulfide, soluble in chloroform

Vapor Pressure: <1mPa(25°C)

pH: 6.5% (4% aqueous suspension)

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

Chemical stability: Stable under normal ambient temperature.

Conditions to avoid: Excessive heat.

Incompatibility with other materials: Acids, oxidizers, copper.

Hazardous decomposition products: Decomposed by excessive heat and acids. Heating to decomposition generates carbon disulfide and oxides of carbon, nitrogen and sulfur. Acid decomposition may evolve carbon disulfide and hydrogen sulfide.

Hazardous polymerization: Will not occur.

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

Acute oral LD<sub>50</sub> (rat): 2.6mg/kg; LC50 (rat): 4.42mg/L(4h)

Acute dermal LD<sub>50</sub> (rabbit): >2mg/kg

Acute dermal LD<sub>50</sub> (rat): >5mg/kg

Eye: Cause irritation to rabbits.

Skin: May cause irritation and possibly sensitization. May be slightly absorbed through the skin based on animal studies.

Ingestion: May cause systemic poisoning with symptoms of weakness, nausea, vomiting, diarrhea, confusion, dizziness, delirium, tremor, hallucinations, ataxia, ascending paralysis, hypothermia and peripheral neuropathy (pain, numbness and weakness of the extremities). Respiratory paralysis and death may occur.

Inhalation: Dust may cause mucous membrane and respiratory irritation with coughing, sneezing, choking and labored breathing.

Carcinogenicity: Not listed.

#### **12. Ecological Information**

Environmental precautions: This product is toxic to fish. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water high water mark. Do not contaminate water by cleaning of equipment or disposal of equipment wash waters. Drift or runoff from treated areas may be hazardous to aquatic organisms in neighboring areas.

Toxicity to fish:

LC50: 0.13mg/L (Salmo (Trout));

Xenopus Laevis (amphibian) stage 470.017 ppm/24 h

>100mg/L (Redwing Blackbird oral)

#### **13. Disposal Considerations**

Do not reuse product containers. Dispose of product containers, waste containers, and residues according to local, provincial, and federal health

and environmental guidelines.

#### **14. Transport Information**

Class: 9

UN No: UN 3077

Packaging Group III

#### **15. Regulatory Information**

Safety Phrases: Keep out of reach of children

Keep away from food, drink and animal feeding stuff

Do not breathe spray

When using do not eat, drink or smoke

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

In case of accident or if you feel unwell, seek medical advice immediately (Show the label where possible)

Use appropriate containment to avoid environmental contamination

#### **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.