



Hangzhou Tianlong Biotechnology Co., Ltd.

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MATERIAL SAFETY DATA SHEET

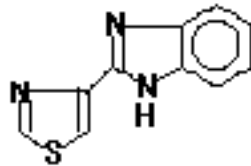
1. Chemical Product and company Identification

Product Name: Thiabendazole

Molecular Formula: C₁₀H₇N₃S

Molecular Weight: 201.25

Structural Formula:



Chemical Name: 2-(Thiazol-4-yl)benzimidazole

CAS No.: 148-79-8

Supplier: HANZHOU TIANLONG BIOTECHNOLOGY CO., LTD

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2. Composition / Information On Ingredients

Composition	CAS No.	Content %
Thiabendazole	148-79-8	99.0
Other ingredients		1.0

3. Hazards Summarizing

Skin: May cause slight skin irritation.

Eye: May cause slight eye irritation.

Ingestion: Not expected to be harmful if swallowed.

Inhalation: Not expected to be harmful if inhaled. Repeated or prolonged contact may cause respiratory tract irritation.

Medical Conditions Prone to Aggravation by Exposure: None known.

4. First Aid Measures

Eye contact: In case of eye contact, flush eyes with plenty of lukewarm water

for at least 15 minutes. If irritation persists, get medical attention.

Skin contact: Wash affected areas with plenty of soap and water for 15 minutes. Remove contaminated clothing and shoes. Wash clothing and decontaminate footwear before reuse. If irritation persists, seek medical attention.

Ingestion: If ingested, Do not induce vomiting unless directed to do so by medical personnel. Do not give anything by mouth to an unconscious or convulsing person.

Inhalation: If inhaled, remove to fresh air. Get medical attention if symptoms persist.

5. Fire-Fighting Measures

Flash Point: > 93.33 °C (> 200 °F).

Suitable Extinguishing Media: All extinguishing media are suitable.

Special Fire Fighting Procedures: Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes. Use cold water spray to cool fire-exposed containers to minimize risk of rupture.

Unusual Fire and Explosion Hazards: Toxic and irritating gases/fumes may be given off during burning or thermal decomposition.

6. Accidental Release Measures

Personal Precautions: Wear appropriate protective clothing and eye protection.

Spill and Leak Procedures: Cleanup personnel must use appropriate personal protective equipment. Cover spill with inert material (e.g., dry sand or earth) and collect for proper disposal.

Clean Up Methods: For small spills, wipe up or absorb with inert material. Place in closed, labeled containers and store in a safe place to await proper disposal. For large spills, restrict access to the contaminated area. Stop spill at the source. Contain by diking with soil or other absorbent material. Pump liquid to recovery vessel. Transfer all waste material to an appropriate container.

(See also Section 8 for information on Exposure Controls and Personal Protective Equipment)

7. Handling and Storage

Handling: Keep away from heat or flame. Avoid all contact with eyes. Avoid contact with skin or clothing. Wash areas immediately after contact. Remove and launder clothing.

Handling Precautions: Handle in accordance with good industrial hygiene and safety practices. Wash thoroughly after handling. Keep container closed when not in use.

Storage Precautions: Do not store at temperatures below 0° C (32° F). Store

away from food and feed. Keep out of reach of children. Store in a well-ventilated area protected from extreme temperatures. Protect from freezing. Avoid extreme heat.

8. Exposure Controls/Personal Protection

Industrial Hygiene/Ventilation Measures: General dilution and local exhaust as necessary to control airborne vapors, mists, dusts and thermal decomposition products below appropriate airborne concentration standards/guidelines.

Respiratory Protection: Avoid breathing in vapors or spray mists. In case of insufficient ventilation wear suitable NIOSH approved respiratory equipment.

Hand Protection: Nitrile rubber gloves or Polyvinyl chloride (PVC/vinyl) gloves.

Eye Protection: Chemical splash goggles or full-face shield and safety glasses with sideshields.

Skin and body protection: Wear cloth work clothes including long sleeved shirts and long pants, impervious apron, boots, disposable coveralls and/or other equipment to protect the skin.

Additional Protective Measures: Employees should wash their hands and face before eating, drinking, or using tobacco and cosmetic products. Educate and train employees in the safe use and handling of this product. Emergency showers and eye wash stations should be available. Launder any contaminated clothing before reuse.

9. Physical and Chemical Properties

Appearance: Off-white to white powder

Water Solubility: <50 mg/L @ pH 5 to 12

Relative density : 1.3989

Solubility in Other Solvents: s. in acetone and ethanol; s.s. in benzene and chloroform

Melting Point: 304-305 °C

Vapor Pressure: Negligible at room temperature

Partition Coefficient: Not Available

Adsorption Coefficient: 2500

10. Stability and Reactivity

Stability: Stable

Hazardous Polymerization: Does not occur.

Hazardous Decomposition Products: Carbon monoxide, Carbon oxides, nitrogen oxides(NOx), sulfur oxides, other potentially toxic fumes may be caused by fire and thermal decomposition.

Materials to Avoid: Oxidizing agents, Reducing agents, Strong acids.

11. Toxicological Information

Acute oral LD50 : rat 3100mg/kg
 Mouse 3600mg/kg
 Rabbit 3800mg/kg

Acute dermal LD50 : rabbit >2000mg/kg

Acute inhalation LC50(4h) : rat >0.5mg/L

Skin irritation : non-irritant for rabbit

Eye irritation : non-irritant for rabbit

Reproductive effects: A three-generation study in rats showed no adverse effects on reproduction at 20 to 80 mg/kg/day. However, four times this low therapeutic dose produced serious pregnancy related disorders (eclampsia) in sheep. Mice studied for five generations showed no effects at 10 mg/kg/day, decreased weanling weights at 50 mg/kg/day, and decreased weanling weight and size at 250 mg/kg/day. Reproductive effects in humans are not likely at anticipated levels of exposure.

Teratogenic effects: Pregnant rabbits fed doses of 75, 150, and 600 mg/kg/day produced pups with lower fetal weights at the highest dose tested. No birth defects were observed with thiabendazole at any dose tested. Teratogenic effects are not likely from thiabendazole exposure.

Mutagenic effects: Several studies with bacteria have failed to produce any chromosome changes or mutations due to thiabendazole. It appears that the compound is not mutagenic.

Carcinogenic effects: A 2-year feeding study with rats at levels of 10 to 160 mg/kg/day produced no cancer-related effects attributable to thiabendazole. Another study conducted over 18 months at the maximum tolerated dose in mice produced no evidence of cancer related effects. It does not appear that thiabendazole is carcinogenic.

Organ toxicity: Dogs autopsied after a 2-year feeding study had incomplete development of bone marrow, a wasting away of lymph tissue, and other abnormalities. Most dogs tested at about 100 mg/kg/day for 2 years developed anemia. The dogs recovered at the end of the study.

12. Ecological Information

Effects on birds: No data are currently available.

Effects on aquatic organisms: Thiabendazole is of low toxicity to fish. The compound is not expected to appreciably accumulate in aquatic organisms. The bioconcentration factor for thiabendazole in whole fish is 87 times the ambient water concentrations. Fish eliminated the compound within 3 days after being placed in thiabendazole-free water

Effects on other organisms: Earthworms are sensitive to the compound (LD50 = approx. 20 ug/worm), while bees are not. It is nontoxic to bees.

13. Disposal Considerations

Dispose of contaminated product and materials used to clean up spills in a manner consistent with Federal, State, and local regulatory agencies. Dispose of all empty containers as directed on the label. If these wastes can not be disposed of according to label directions, contact your State Pesticide or Environmental Control Agency, or Hazardous Waste Representative at the nearest EPA Regional Office for guidance. Open dumping is prohibited. Pesticide wastes are toxic. Improper disposal of excess pesticide, pesticide formulation, or rinsate is a violation of federal law. Do not reuse empty container. Small containers (1.5 and 7.5 oz packets) should be emptied as much as possible then wrapped in several layers of newspaper and discarded in trash. Large containers (drums) should be triple rinsed and offered for recycling or reconditioning. Do not discharge effluent containing this product into streams, lakes, ponds, estuaries, bays, oceans, public waters, or other waterways.

14. Transport Information

CLASS: 6.1,
PACKING 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.