

Material Safety Data Sheet

Issue No.: 1.2	1 st Edition: Jan 2005	Revision date: May 2010
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1. IDENTIFICATION OF THE SUBSTANCE AND SUPPLIER

Product Name: **ICA-THIABENDAZOLE 500 SC**
 Other names: TBZ, Benzamidazole.
 Recommended Use: Agricultural fungicide. End use formulated product.
 Supplier: ICA International Chemicals (Pty) Ltd
 Address: 28 Planken Street
 Plankenbrug Industrial
 STELLENBOSCH · 7600 · SOUTH AFRICA
 Telephone No.: +27 (0) 21 886 9812
 Fax No.: +27 (0) 21 886 8209
 Emergency Phone No.:

2. HAZARD IDENTIFICATION

Hazard Classification: WHO **Classification:** U - Unlikely to present acute **hazard** in normal use.

Risk Phrases: R50/R53: Very toxic to aquatic organisms; may cause long-term adverse affects in the aquatic environment.

Safety Phrases: S2 - Keep out of reach of children
 S60/61 - This material and its container must be disposed of as hazardous waste. Avoid release to the environment (waterways).

3. COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENT(s)	CAS NO.:	Labelling	Content (% w/w)
Thiabendazole [2-(Thiazole-4-yl)benzimidazole] (ISO)	148-79-8 or 28558-32-9	N: R50/53 S60/61	50%
Water and other ingredients			Fill to 1 litre

4. FIRST AID MEASURES

Show this **MATERIAL SAFETY DATA SHEET** to a doctor.

- INHALATION:**
- If inhaled: (spray mist) and breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.
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- EYES:**
- If in contact with eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Hold eyelids apart and continue rinsing. Seek medical advice.
 - Thiabendazole is not an eye irritant (EPA Class IV). Other ingredients may cause slight irritation.
- SKIN:**
- If in contact with skin, gently wash affected areas with water and soap.
 - Remove and wash contaminated clothing.
 - Thiabendazole technical is classified being non-irritating to skin, not a skin sensitizer and has a low acute toxicity via the dermal route (EPA Class IV).
- INGESTION/
SWALLOWED:**
- Accidental ingestion of large amounts of this product may cause the following adverse affects: Dizziness, nausea, vomiting, diarrhea, epigastric distress, lethargy, fever, flushing, chills, and headache.
 - Drink plenty of water and get medical attention.
 - Low acute toxicity via oral route (EPA Class III).
- MEDICAL ATTENTION:** **Thiabendazole** is widely used as an agricultural fungicide, but most experience with its toxicology in humans has come from medicinal use against intestinal parasites. Oral doses administered for this purpose are far greater than those likely to be absorbed in the course of occupational exposure. Thiabendazole is rapidly metabolized and excreted in the urine, mostly as a conjugated hydroxy-metabolite. Symptoms and signs that sometimes follow ingestion are: dizziness, nausea, vomiting, diarrhea, epigastric distress, lethargy, fever, flushing, chills, rash and local edema, headache, tinnitus, paresthesia, and hypotension. Blood enzyme tests may indicate liver injury. Persons with liver and kidney disease may be unusually vulnerable to toxic effects. Adverse effects from use of thiabendazole as a fungicide have not been reported.

[Recognition and Management of Pesticide Poisoning, 5th edition, U.S. EPA, Chapter 15. March 1999.](#)

5. FIRE FIGHTING MEASURES

- SUITABLE
EXTINGUISHING MEDIA:**
- **SMALL FIRE:** Dry chemical, CO₂, water spray or regular foam.
 - **LARGE FIRE:**
 - Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Do not scatter spilled material with high pressure water streams. Dike fire-control water for later disposal.
 - Prevent entry into waterways, sewers, basements or confined areas.
- HAZARDS FROM STRONG
COMBUSTION
PRODUCTS:**
- Can decompose at high temperatures forming toxic gases. Toxic gases include carbon dioxide, carbon monoxide, nitrogen and sulphur compounds.
- PRECAUTIONS FOR
FIRE FIGHTERS:**
- Fire fighters should wear full protective gear including self-contained breathing apparatus.
- HAZCHEM CODE:** Environmentally hazardous substance(Aquatic)

6. ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK:

- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak or transfer product to clean container as soon as possible to prevent spreading/leaking.

7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING	BASIC PRECAUTIONARY HANDLING FOR AGRICULTURAL Chemicals: <ul style="list-style-type: none">· Keep out of reach of children and animals.· Wash hands before eating, drinking, smoking or using the toilet.· Use in well ventilated areas.· If contact with product is likely to occur, wear protective clothing.· Wear rubber gloves when handling product to avoid skin contact.· Wear eye protection to prevent product from splashing into eyes.· After work, remove and wash contaminated protective clothing before using it again.
CONDITIONS FOR SAFE STORAGE	<ul style="list-style-type: none">· Store in original container in a well-ventilated, cool, dry, secure area. Protect from heat.· Do not expose containers to temperatures below 0°C or above 52°C (i.e. <i>prevent product from freezing</i>).· DO NOT re-use the container for any other purposes.· Keep containers closed when not in use.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

NATIONAL EXPOSURE STANDARDS:	No exposure standards have been assigned.
BIOLOGICAL LIMIT VALUES:	No biological limit allocated
ENGINEERING CONTROLS:	Facilities should be equipped with an eyewash facility and a safety shower.
PERSONAL PROTECTIVE EQUIPMENT:	EYES: Safety goggles or face shield. GLOVES: Wear chemical resistant PVC gloves. RESPIRATORY: If inhalation of spray mist is likely to occur wear a self-contained breathing apparatus. Use in well ventilated area ONLY. In case of insufficient ventilation , wear suitable respiratory equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	White to Ivory aqueous suspension liquid
ODOUR:	Characteristic
pH:	5 - 8
VAPOUR PRESSURE:	Negligible at room temperature (TC)
DENSITY:	~1.17 g/ml
MELTING POINT:	Range from 304 - 305 °C (TC)
SOLUBILITY IN WATER:	10g/l at pH2; <0.05g/l at pH 5-12 (TC)
SPECIFIC GRAVITY:	1.291 at 20°C (TC)
FOAMING:	Max 25 ml after 1 min.
FLAMMABILITY:	Non-flammable
INCOMPATIBILITY:	Incompatible with a number of pesticides including copper-containing products .
CORROSION:	Non-corrosive

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY:	Stable under normal use and storage conditions.
CONDITIONS TO AVOID:	Excessive heat or cold.
INCOMPATIBLE MATERIALS:	Copper-containing fungicides, highly alkaline materials.
HAZARDOUS DECOMPOSITION PRODUCTS:	Can decompose at high temperatures forming toxic gases. Toxic gases include carbon dioxide, carbon monoxide, nitrogen and sulphur compounds.
HAZARDOUS REACTIONS:	Will not occur.

11. TOXICOLOGICAL INFORMATION

ANIMAL ACUTE TOXICITY DATA (PRODUCT)

ORAL:	LD ₅₀ (rat)	3310 mg/kg bw (TC); >5000 mg/kg bw (product) (EPA Class III).
DERMAL:	LD ₅₀ (rabbit)	> 2000 mg/kg bw (TC) (EPA Class III).
INHALATION:	LC ₅₀ rat	> 0.7mg/l (TC) (Not applicable to product which is a liquid).
DERMAL IRRITATION:	(OECD 404)	No irritation
EYE IRRITATION:	(OECD 405)	No irritation
SENSITISATION:	Guinea pig	Did not cause any dermal sensitisation (technical).

12. ECOLOGICAL INFORMATION

ECOTOXICITY:	Fish	<ul style="list-style-type: none">• Highly toxic to estuarine/marine invertebrates on an acute basis.• Active ingredient: LC₅₀ (96hr) – 0.55mg/L (rainbow trout)• Active ingredient: LC₅₀ (48hr) – 0.81mg/L (<i>Daphnia</i>)
	Birds	<ul style="list-style-type: none">• Acute toxicity: LD₅₀ - > >2250 mg/kg bw (quail)• Dietary toxicity: LC₅₀ - 5620 mg/kg diet (quail or duck)
	Earthworms	<ul style="list-style-type: none">• Acute toxicity LC₅₀ - >1000 mg/kg soil
PERSISTENCE AND DEGRADABILITY:		<ul style="list-style-type: none">• Thiabendazole appears to be persistent in soil. Not ready biodegradable.
MOBILITY:		<ul style="list-style-type: none">• Immobile in soil.

13. DISPOSAL CONSIDERATIONS

Do not use fungicide containers or packaging material for storing water or food. Triple or preferable pressure rinse empty containers with clean water before disposal. Add rinsing to spray/mixing tank. Do not dispose of undiluted chemical on-site. If recycling, replace cap and return clean containers to recycler or designated collection point. IF NOT recycling, break crush or puncture and bury empty containers in a local authority landfill. If no landfill is available bury the containers below 500mm in a disposal pit specifically marked and set up for this purpose clear of any water source (river, dam, spring, or borehole). Empty containers and product should not be burnt.

14. TRANSPORT INFORMATION

UN NUMBER: 3082
PROPER SHIPPING NAME: Environmentally hazardous substance, liquid, n.o.s. (Thiabendazole 50%)
CLASS AND SUBSIDIARY RISK(S): Class 9
PACKING GROUP: III (minor danger)

HAZCHEM CODE:



Environmentally Hazardous substance

15. REGULATORY INFORMATION

Poisons Schedule No.: Not applicable

16. OTHER INFORMATION

Reason for update: To conform to the **SANS 10234 : 2007 standard of the 16 Header Format.**

The information given is based on a complete set of scientific studies and publications by various agricultural departments, organizations and universities over a period of many years (1970 – 2006). The United States Environmental Protection Agency (EPA) has reviewed all of these studies and published a report (May 2002) with its final decision regarding the risk assessment for thiabendazole.

This Material Safety Data Sheet (MSDS) summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how to prevent accidents in the normal workplace including in conjunction with other products. Care for the environment is essential for our future.

Abbreviations and Acronyms:	ADG:	Australian Dangerous Goods Code, Rail & road 6 th edition
	APVMA:	Australian Pesticide and Veterinary Medicines Authority
	CAS Number:	Chemical Abstract Service Registry Number
	EPG:	Emergency Procedure Guide
	IATA:	International Air Transport Association
	ICAO:	International Civil Aviation Organization
	IMDG:	International Maritime Dangerous Goods Code
	NDPSC:	National Drugs and Poisons Scheduling Committee
	NOHSC:	National Occupational Health and Safety Commission
	SUSDP:	Standard for the Uniform Scheduling of Drugs and Poisons.

END of MSDS