

**THIRAFLO<sup>®</sup> SEED TREATMENT**

MSDS No: EF0403A

DATE OF ISSUE: 29th August 2003

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**STATEMENT OF HAZARDOUS NATURE**

Thiraflo Flowable Fungicide is classified as hazardous according to the criteria of the National Occupational Health & Safety Commission.

**COMPANY DETAILS**

COMPANY: Crompton Specialties Pty Ltd  
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FACSIMILE NUMBER: (61-8) 8268 7555  
EMERGENCY TELEPHONE NUMBER: 1800 033 111

**IDENTIFICATION**

PRODUCT NAME: Thiraflo<sup>®</sup> Flowable Fungicide  
OTHER NAMES: Thiram Flowable  
MANUFACTURER'S CODE: No code number  
UN NUMBER: 3082  
DANGEROUS GOODS CLASS: 9; Miscellaneous Dangerous Goods  
HAZCHEM CODE: 2 X E  
POISONS SCHEDULE NUMBER: S 6  
USE: Seed Treatment to control various fungal diseases of Chickpeas & Lupins, for Sorghum seed (export only) and as a drench to control fungal diseases of Turf.

**PHYSICAL DESCRIPTION/PROPERTIES:**

APPEARANCE AND ODOUR: Pale Blue liquid suspension with no odour  
MELTING POINT: Not Available  
BOILING POINT: Not Available  
VAPOUR PRESSURE @ 20°C: Negligible  
SPECIFIC GRAVITY (H<sub>2</sub>O = 1): 1.19  
FLASHPOINT: > 94°C  
FLAMMABILITY LIMITS (%): Not Available  
SOLUBILITY IN WATER: Miscible

**OTHER PROPERTIES:**

STABILITY: Light stable at ambient temperatures and pressures. Will thicken irreversibly with heat.  
INCOMPATIBILITY: Strong acids oxidizers, copper  
REACTIVITY: Unstable in acidic conditions  
AUTOIGNITION TEMPERATURE: Not Available  
EVAPORATION RATE: Not Available

**INGREDIENTS:**

CHEMICAL ENTITY	CAS NUMBER	PROPORTION
Thiram	137-26-8	600 g/L

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**HEALTH HAZARD INFORMATION**

Thiraflo is classified as hazardous according to the criteria of the National Occupational Health and Safety Commission.

**Harmful (Xn):** R 21/22 Harmful in contact with skin and if swallowed  
R 36/37 Irritating to eyes and respiratory system.  
R 40 Possible risk of irreversible effects

**HEALTH EFFECTS:**

Thiram is toxic and short-term exposure by all routes is considered harmful. Intolerance to alcohol has been observed in some workers, as thiram is very similar to 'Antabuse' (disulfiram) in its action, causing an accumulation of acetaldehyde. Symptoms include flushing, sweating, nausea, vomiting, dizziness, palpitations, headaches, rapid pulse, breathing difficulties and a lowering of blood pressure. This is a rare occurrence.

**ACUTE**

**Swallowed:** Moderate to low toxicity by ingestion. Ingestion can result in nausea, vomiting, diarrhea, abdominal pain and convulsions.

Acute oral LD<sub>50</sub> (rat) > 560 mg/kg thiram tech

**Eye:** Contact with eyes may cause slight irritation

**Skin:** Contact with skin may cause irritation. Thiram is a possible skin sensitizer and may cause an allergic skin rash.

Acute dermal LD<sub>50</sub> (rabbit) - > 1,000 mg/kg thiram tech

**Inhaled:** Inhalation of the mist will result in irritations of the mucous membranes and respiratory tract, coughing and sneezing.

**CHRONIC**

Studies in animals have shown that thiram may cause CNS, liver, kidney, fetotoxic and testicular damage, following repeated or prolonged overexposure. The material may be weakly mutagenic but

no evidence of carcinogenic effects has been observed in several animal test species.

Acute oral LD<sub>50</sub> (rat) - 560 mg/kg (thiram technical)

Acute dermal LD<sub>50</sub> (rat) - > 1000 mg/kg (thiram technical)

Acute inhalation LC<sub>50</sub> (rat) - > 0.3-1.0 mg/L/4H (thiram technical)

**FIRST AID:**

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 131 126.

**Swallowed:** If patient is fully conscious, thoroughly rinse mouth with water. Avoid giving alcohol to drink. Seek urgent medical attention.

**Eye:** Hold eye(s) open and flush with water for 15 minutes. Seek medical advice.

**Skin:** Remove contaminated clothing and wash skin thoroughly with soap and water. Launder clothing before reuse.

**Inhaled:** Remove to fresh air - avoid becoming a casualty. If breathing difficulties occur, give oxygen. Apply artificial respiration if not breathing. Seek urgent medical advice.

**FIRST AID FACILITIES:**

Eye wash station.

**ADVICE TO DOCTOR:**

If a large quantity has been swallowed and effective vomiting has not yet occurred, the stomach has to be emptied by intubation, aspiration and lavage. This should be followed by instillation of

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activated charcoal and cathartic. If only a small quantity has been ingested and/or treatment has been delayed, oral administration of activated charcoal probably represents optimal management. In severe poisoning, intravenous glucose solution infusion protects and supports the mechanisms of detoxification and excretion.

**PRECAUTIONS FOR USE****EXPOSURE STANDARDS:**

No value assigned for this specific material by the National Occupational Health and Safety Commission (Worksafe Australia). However, for Thiram, TWA = 1 mg/m<sup>3</sup>

The exposure limit is expressed as a time weighted average (TWA) concentration over an 8 hour working shift for a 5 day working week, and is the exposure standard recommended by Worksafe Australia.

**ENGINEERING STANDARDS:**

Use only in well ventilated areas. Ensure ventilation is adequate to maintain air concentrations below exposure standards listed above. Keep containers closed when not in use.

**PERSONAL PROTECTION:**

Avoid all personal contact. When using, do not eat, drink or smoke. Wear cotton overalls buttoned to the neck and wrist, elbow-length PVC gloves and face shield or goggles. In the absence of adequate ventilation, use a respirator fitted with an agricultural chemical cartridge(s). If product on skin, immediately wash area with soap and water. If product in eyes, wash it out immediately with water. After use and before eating, drinking, smoking or using the toilet, wash hands, arms and face thoroughly with soap and water. Launder clothing before storing or reusing.

**FLAMMABILITY:**

Not flammable under conditions of use.

**SAFE HANDLING INFORMATION****STORAGE AND TRANSPORT:**

CORRECT SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS SUBSTANCES  
LIQUID NOS (Contains Thiram) Marine Pollutant

PACKAGING GROUP: III (class 9)

Classified as miscellaneous dangerous goods for the purpose of transport. Refer to relevant regulations for storage and transport requirements.

Do not load with dangerous goods class 1, foodstuff or foodstuffs empties

TRANSPORT BY AIR: Refer to IATA regulations for UN No 3082

TRANSPORT BY SEA: Refer to IATA regulations for UN No 3082

Store in original container, away from fertilizers, animal and human feedstuffs. Keep cool, dry and out of direct sunlight. This material is a Scheduled Poison (S6) and must be stored, maintained and used in accordance with the relevant regulations.

**SPILLS:**

Keep bystanders away from scene of accident. Using sand or soil, form a dam around the spill to prevent entry to sewers or watercourses. Adsorb with sand or soil and sweep up. Douse spill area with sodium hypochlorite (bleach) solutions and absorb with soil or sand. Sweep up and hose spill area with copious quantities of water. Do not allow to contaminate watercourses or drains. If there is contamination of crops or waterways, advise emergency services or State Department.

**DISPOSAL:**

**For disposal after intended use:** Store in the closed, original container in a well-ventilated area, as cool as possible. Do not store for prolonged periods in direct sunlight. Triple or (preferably) pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals 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

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in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

**For disposal after accident or spill:** Dispose of sealed containers at an approved local waste disposal site.

**FIRE/EXPLOSION HAZARD:**

This product is water based and therefore is not flammable. Will decompose however when heated to emit toxic and noxious gases of NO<sub>2</sub> and SO<sub>2</sub>. In the event of fire in an area where the product is stored, fight fire upwind; if downwind, in a confined space or in smoke or fumes, wear self contained breathing apparatus (SCBA). Fight fire with extinguishing material appropriate to burning material(s). Advise Fire Brigade of nature of hazard. Contain runoff.

**Extinguishing Media:** Water spray or dry chemical. Contain runoff.

**Hazchem Code:** 2 X E

**OTHER INFORMATION****ENVIRONMENTAL HAZARDS:**

Do not feed or otherwise expose treated seed to wild animals and birds.

Highly toxic to fish due to presence of thiram. LC<sub>50</sub> Salmo (trout) 0.13 mg/L (Thiram technical)

Do not contaminate streams, rivers or waterways and drains with this product or used containers.

Not toxic to bees. Not toxic to birds. Acute oral LD<sub>50</sub> Redwing Blackbird > 100 mg/kg (Thiram technical)

**IMPORTANT PLEASE READ:**

This Material Safety Data Sheet provides certain basic health and safety information ("Information") about Thiraflo Seed Treatment ("Product").

You should read the Information carefully. This product may be dangerous if not handled or used properly. You should not use the Product unless you are satisfied after reading the Information that it is suitable for your purposes outline.

Crompton Specialties Pty Ltd and its related companies and distributors ("Crompton") shall not be liable (including, without limitation, liable in negligence) for any expenses, losses, damages or costs that you may suffer or incur as a result of your failure to read the Information carefully or the Product being incapable of achieving any purpose.

Crompton excludes all implied conditions, warranties and other terms implied by statute or common law, except any implied condition or warranty the exclusion of which would contravene any statute or cause any part of this paragraph to be void ("Non-excludable Condition"). In the event of any breach of any Non-excludable Condition (other than where the customer is a "consumer" as defined under the Trade Practices Act and there is a breach of any Non-excludable Condition in respect of goods or service of a kind ordinarily acquired for personal, domestic or household use or consumption) Crompton's liability shall be limited to any one of supplying, replacing or repairing the goods in respect of which the breach occurred.

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