

# MATERIAL SAFETY DATA SHEET

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Date of Issue: March 2013  
MSDS No. FMC/THITHI/1

## SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Product Name: FMC Thiram/Thiabendazole Seed Dressing**

**Other Names:** Thiram + Thiabendazole Seed Dressing, a Group 1, M3 Fungicide.  
**Use:** Agricultural seed dressing fungicide.  
**Company:** FMC Crop Protection Pty Ltd.  
**Address:** 5 Palmer Place, Murarrie, Qld 4172  
**Telephone Number:** 07 3908 9222 **Fax Number:** 07 3908 9221  
**Emergency Telephone Number:** 1800 033 111 (All hours - Australia wide).

## SECTION 2 HAZARDS IDENTIFICATION

**Classified as Hazardous according to criteria of the Safe Work Australia.  
Not classified as a Dangerous Good according to the ADG Code.**

**Risk Phrases:** R20/22 Harmful by inhalation and if swallowed.  
R36/37 Irritating to eyes and respiratory system.  
R43 May cause sensitization by skin contact.  
R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.

**Safety Phrases:** S2 Keep out of reach of children.  
S13 Keep away from food, drink and animal feeding stuffs.  
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

## SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

### Ingredients:

<b>CHEMICAL</b>	<b>CAS NUMBER</b>	<b>PROPORTION</b>
Thiram	137-26-8	360 g/L
Thiabendazole	148-79-8	200 g/L
Other ingredients (considered non-hazardous)		Balance

## SECTION 4 FIRST AID MEASURES

**Ingestion:** If swallowed DO NOT induce vomiting; seek medical advice immediately and show the product label or contact the Poisons Information Centre on 13 11 26. Rinse mouth thoroughly with water. Do not give anything by mouth to a semi-conscious or unconscious person. If Make every effort to prevent vomit from entering the lungs by careful placement of the patient.

**Skin:** Remove contaminated clothing and wash affected areas thoroughly with soap and water. Launder contaminated clothing before re-use. If irritation persists, seek medical advice.

**Eye:** If in eyes, hold eyelids open and wash with clean water until chemical is removed. Seek medical advice.

**Inhalation:** Over exposure by inhalation is improbable. Check for other causes of observed symptoms, move victim to fresh air and seek medical advice.

**Advice to Doctor:** Treat symptomatically. Avoid giving alcohol – may cause vomiting and shock.

**SECTION 5 FIRE FIGHTING MEASURES**

**Specific Hazard:** Not flammable. Extinguish fire using carbon dioxide, foam or dry agent. If not available, use waterfog or fine water spray but ensure all runoff is contained. Contain all runoff.

**Extinguishing media:** Choose extinguishing media to suit the burning material. If soft stream water fog or fine water spray is used, contain all runoff.

**Hazards from combustion products:** There is no risk of an explosion from this product under normal circumstances if involved in a fire. Product is unlikely to decompose until heated to dryness. On further heating will emit toxic fumes. Firefighters to wear self-contained breathing apparatus and suitable protective clothing if risk to of exposure to vapour or smoke.

**Precautions for fire-fighters and special protective equipment:** Isolate fire area. Evacuate downwind. Wear full protective clothing and self-contained breathing apparatus. Do not breathe or contact smoke, gases or vapours generated.

**SECTION 6 ACCIDENTAL RELEASE MEASURES**

**Emergency procedures:** Wear cotton overalls buttoned to the neck and wrist (or equivalent clothing), elbow-length rubber gloves and face shield or goggles. In the case of spillage, stop leak if safe to do so, and contain spill. Absorb spilled material with absorbent material such as sand, clay or cat litter and dispose of waste as indicated in section 13 or according to the Australian Standard 2507 - Storage and Handling of Pesticides. Keep out animals and unprotected persons.

After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Thoroughly launder protective clothing before storage or re-use.

**SECTION 7 HANDLING AND STORAGE**

**Precautions for Safe Handling:** Seed treated with this product must not be used for animal or human consumption. Bags or other containers which have held treated seed are not to be used for any other purpose. Harmful if absorbed by skin contact or swallowed. Will irritate the eyes, nose, throat and skin. Avoid contact with eyes and skin. Do not inhale spray mist. Wash hands after use.

**Handling Conditions for Safe Storage:** Store in the closed, original container, in a cool, well ventilated area. DO NOT store for prolonged periods in direct sunlight.

**SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Standards:** Exposure guidelines have not been established for this product by Safe Work Australia, however the following guidelines are for ingredients in this product.

Atmospheric Contaminant	Exposure Standard (TWA)	STEL (mg/m <sup>3</sup> )
Thiram	1 mg/m	-

TWA = Time-weight Average. STEL = Short term Exposure Limit.

**Biological Limit Values:**

No biological limit allocated.

**Engineering controls:**

Handle in well ventilated areas, generally natural ventilation is adequate.

**Personal Protective equipment (PPE):**

General: It is good practise to wear suitable personal protective equipment (PPE) even though OCSEH have not recommended any PPE is required in the normal handling of this product. Wash hands after use.

Respiratory Protection: Generally not required. Use of a respirator may be required in certain circumstances. If an inhalation risk exists, wear a properly fitted half-face or full-face air-purifying respirator which is approved for pesticides (Australian Standards). Do not inhale spray mist.

Personal Hygiene: Clean water should be available for washing in case of eye or skin contamination. Wash skin before eating, drinking or smoking. Shower at the end of the workday.

**SECTION 9 | PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	Opaque green liquid.
<b>Odour:</b>	Mild odour.
<b>Solubility in Water:</b>	Disperses/suspends in water.
<b>Specific Gravity:</b>	1.1
<b>Vapour Pressure:</b>	No data available.
<b>Volatile Component:</b>	No data available.
<b>Flammability:</b>	Non combustible material.
<b>Poisons schedule:</b>	This product is a schedule 6 (S6) poison.
<b>Formulation type:</b>	Suspension Concentrate (SC).

**SECTION 10 | STABILITY AND REACTIVITY**

**Chemical Stability:** Product is considered stable in ambient conditions for a period of at least 2 years after manufacture. This product is unlikely to spontaneously decompose.

**Conditions to avoid:** Do not store for prolonged periods in direct sunlight.

**Incompatible materials:** Strong acids. Reaction of the concentrate or spray mix with acids will cause carbon disulfide to be formed. Carbon disulfide is a volatile toxic liquid.

**Hazardous decomposition products:** Product is unlikely to decompose until heated to dryness. On further heating will emit toxic fumes.

**Hazardous reactions:** No special considerations. Will not polymerise.

**SECTION 11 | TOXICOLOGICAL INFORMATION**

No specific data is available for this product as no toxicity tests have been conducted on this product. Information presented is our best judgement based on similar products and/or individual components. As with all products for which limited data is available, caution must be exercised through the use of protective equipment and handling procedures to minimise exposure.

**Potential Health Effects:****ACUTE EFFECTS**

**Ingestion:** Possible symptoms of exposure of the concentrate include: headache, arrhythmia, shortness of breath, nausea and vomiting. Consumption of alcohol increases the toxic effects. Ingestion of Thiram and alcohol together may cause stomach pains, nausea, vomiting, headache, slight fever, and possible dermatitis. Workers exposed to Thiram during application or mixing operations within 24 hours of moderate alcohol consumption have been hospitalized with symptoms.

**Skin:** Prolonged contact with the concentrate may cause irritation. Prolonged or repeated exposure may cause skin sensitization.

**Eye:** The concentrate will cause irritation of the eyes.

**Inhalation:** Not a likely route of exposure when handling the concentrate. May cause irritation to the respiratory tract.

**CHRONIC EFFECTS**

Symptoms of chronic exposure to Thiram in humans include drowsiness, confusion, loss of sex drive, incoordination, slurred speech, and weakness, in addition to those due to acute exposure. Repeated or prolonged exposure to Thiram can also cause allergic reactions such as dermatitis, watery eyes, sensitivity to light, and conjunctivitis. Except for the occurrence of allergic reactions, harmful chronic effects from Thiram have been observed in test animals only at very high doses.

**Mutagenicity:** Thiram has been found to be mutagenic in some test organisms but not in others. Thus, the evidence is inconclusive.

**Carcinogenicity:** The weight of the evidence is that thiram is not carcinogenic.

**Teratogenic effects:** The data suggest that high doses are required to cause teratogenic effects.

**Reproductive effects:** The data suggest that reproductive effects occur at high doses not likely to be experienced by humans.

**SECTION 11 TOXICOLOGICAL INFORMATION (Continued)**

*Organ toxicity:* Studies have shown evidence of damage to the liver by Thiram in the form of decreased liver enzyme activity and increased liver weight. Thiram may also cause damage to the nervous system, blood, and kidneys.

*Fate in humans and animals:* In the body, carbon disulfide is formed from the breakdown of Thiram and does contribute to the toxicity of Thiram to the liver.

**SECTION 12 ECOLOGICAL INFORMATION**

**Environmental Toxicology:** Thiram is practically nontoxic to birds. Dietary LC<sub>50</sub> of Thiram > 5000 ppm (Japanese quail). Dietary LC<sub>50</sub> = 2800 ppm (pheasants) and 673 ppm (mallard ducks). The LD<sub>50</sub> for the Thiram in red-winged blackbirds > 100 mg/kg. Thiram is highly toxic to fish. The LC<sub>50</sub> = 0.23 mg/L in bluegill sunfish, 0.13 mg/L in trout, and 4 mg/L in carp. Thiram is not expected to bioconcentrate in aquatic organisms. Thiram is nontoxic to bees. Do not feed treated seed, or otherwise expose, to wildlife and domestic animals, particularly birds.

**Environmental Fate:** Thiram is of low to moderate persistence. It is nearly immobile in clay soils or in soils high in organic matter. It is only slightly soluble in water (30 mg/L) and has a strong tendency to adsorb to soil particles. Thiram is not expected to contaminate groundwater. The soil half-life for Thiram is reported as 15 days. Thiram degrades more rapidly in acidic soils and in soils high in organic matter. In a humus sandy soil, at pH 3.5, Thiram decomposed after 4 to 5 weeks, while at pH 7.0, Thiram decomposed after 14 to 15 weeks. Thiram persisted for over 2 months in sandy soils, but disappeared within 1 week from a compost soil. The major metabolites of Thiram in the soil are copper dimethyldithiocarbamate, dithiocarbamate, dimethylamine, and carbon disulfide. In soil, Thiram will be degraded by microbial action or by hydrolysis under acidic conditions. Thiram will not volatilize from wet or dry soil surfaces.

**SECTION 13 DISPOSAL CONSIDERATIONS**

**Spills & Disposal:** Wear prescribed protective clothing and equipment. Keep material out of streams and sewers. Dispose of drummed wastes, including decontamination solution in accordance with the requirements of Local or State Waste Management Authorities. In rural areas contact ChemClear <http://www.chemclear.com.au> for help with collection of unwanted rural chemicals. Ideally the product should be used for its intended purpose. If there is a need to dispose of the product, approach local authorities who hold periodic collections of unwanted chemicals (ChemClear®).

**Disposal of empty containers:** Triple or preferably pressure rinse containers before disposal. Add rinsings to tank mix. Do not dispose of undiluted chemicals on-site. If not recycling, break, crush, or puncture and deliver empty packaging for appropriate disposal to an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in compliance with relevant Local, State or Territory government regulations. DO NOT burn empty containers or product.

**SECTION 14 TRANSPORT INFORMATION**

**Road & Rail Transport:** This product is exempt from classification as a Dangerous Good in packs less than 3,000 kg or litres under the Australian Code for the Transport of Dangerous Goods by Road and Rail. For bulk shipments this product is a class 9, UN 3082. (See special provision AU01).

**Marine and Air Transport:** FMC Thiram/Thiabendazole is classified as a Marine Pollutant according to International Maritime Dangerous Goods (IMDG) Code and the International Air transport Association (IATA). If transporting by sea or air the following Dangerous Goods Classification applies:- UN 3082, Class 9 (Miscellaneous Dangerous Goods), Packing Group III, Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains Thiram and Thiabendazole). Hazchem code ●3Z. Hazard Identification Number (HIN) 90.

**SECTION 15 REGULATORY INFORMATION**

Classified as a hazardous substance according to criteria of the Safe Work Australia. (T: Toxic, Xn - harmful, Xi - irritant).

Under the Standard for Uniform Scheduling of Medicines and Poisons (SUSMP), this product is a schedule 6 poison.

This product is registered under the Agricultural and Veterinary Chemicals Code Act 1994. Product Registration No. 68238.

Product is not classified as a Dangerous Good according to the ADG Code (7<sup>th</sup> Ed).

**Requirements concerning special training:**

Check State or Territory regulations that require people who use pesticides in their job or business to have training in the application of the materials.

**SECTION 16 OTHER INFORMATION**

Issue Date: 21 March 2013. Valid for 5 years. (First issue).

Key to abbreviations and acronyms used in this MSDS:

ADG Code: Australian Dangerous Goods Code (for the transport of Dangerous Goods by Road and Rail).

ASCC: Australian Safety & Compensation Council (formally known as the National Occupational Health & Safety Commission (NOHSC)).

Carcinogen: An agent which is responsible for the formation of a cancer.

Genotoxic: Capable of causing damage to genetic material, such as DNA.

Lacrimation: The production, secretion, and shedding of tears.

Lavage: A general term referring to cleaning or rinsing.

NOHSC: National Occupational Health and Safety Commission.

Pneumonitis: A general term that refers to inflammation of lung tissue.

PPE: Personal protective equipment.

Teratogen: An agent capable of causing abnormalities in a developing foetus.

TWA: The Time Weighted Average airborne concentration over an eight-hour working day, for a five day working week over an entire working life.

Safe Work Australia: Formally known as Australian Safety & Compensation Council (ASCC) which was formally known as the National Occupational Health & Safety Commission (NOHSC).

**References**

1. "Search Hazardous Substances". HSIS Safe Work Australia website. (2013).
2. "Approved Criteria for Classifying Hazardous Substances" 3rd Ed. NOHSC Australia. [NOHSC:1008 (2004)]. October 2004.
3. Standard for the Uniform Scheduling of Medicines and Poisons. No. 3. Medicines and Poisons Scheduling Secretariat. June 2012.

This 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 the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

*End of MSDS*