

# UNIVERSAL THIRAM 750 WP

# MATERIAL SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE SUBSTANCE

**Product name:** THIRAM 750 WP  
 Fungicide  
**UN No.:** 3077  
**Supplier:** Universal Crop Protection (Pty) Ltd.  
**Co. Reg. No.:** 1983/008184/07  
 PO Box 801,  
 Kempton Park, 1620, South Africa  
**Telephone:** (011) 396 2233  
**Fax:** (011) 396 4666  
**Website:** [www.villacrop.co.za](http://www.villacrop.co.za)

**Emergency telephone numbers:**  
**24 Hr Transport / Spill emergency no:**  
 Envirosure. +27 31 205 4918  
 (Hazcall24) +27 86 044 4411  
 (Client: Villa Crop Protection)  
 Griffon Poison Information Centre +27 82 446 8946  
 (Client: Villa Crop Protection)  
**Poisoning Emergency telephone numbers:**  
 Griffon Poison Information Centre +27 82 446 8946  
 Poisons Information Centre +27 861 555 777  
**Villa Crop Protection Emergency number:**  
**National Safety, Health and Environmental Manager:**  
 +27 63 698 0668

## 2. COMPOSITION / INFORMATION ON INGREDIENTS

**Common Name:** Thiram (tmtd)  
**Chemical Name:** tetramethylthiuram disulfide  
 (IUPAC)  
**CAS No.:** 137-26-8  
**Chemical family:** dimethyldithiocarbamate  
**Chemical formula:** C<sub>6</sub>H<sub>12</sub>N<sub>2</sub>S<sub>4</sub>  
**Molecular weight:** 240.4  
**Use:** Foliar contact fungicide with protective action.  
**Formulation:** Thiram 750 g/kg  
 Wettable powder  
**Hazardous components:** Thiram - 75%  
 silica - 15% (carcinogen)  
**SYMBOLS:** Xn, N  
**RISK PHASES:** R20/22, R36/37/38; R40, R51

## 3. HAZARD IDENTIFICATION

**Likely routes of exposure:**  
 Harmful by inhalation and if swallowed. Consumption of alcohol and acute or chronic Thiram exposure will cause similar effects as ant-abuse.  
**Eye contact:**  
 Direct contact with eyes, cause moderate irritation.

**Skin contact:**  
 Direct contact with skin, cause moderate irritation. May cause allergic skin reaction.  
**Inhalation:**  
 Inhalation of dust may cause mucous membrane and respiratory irritation.  
**Due to silica:** Prolonged repeated inhalation causes irritation of respiratory tract and may cause disabling, progressive pulmonary fibrosis (silicosis). Evidence of human carcinogenicity, from long-term exposure.  
**Ingestion:**  
 Ingestion may cause systemic poisoning with symptoms of headache, nausea, vomiting, tremor, numbness, weakness and death. Ingestion of Thiram and alcohol together may cause stomach pains, nausea, vomiting, headache, slight fever and possible dermatitis.

## 4. FIRST AID MEASURES AND PRECAUTIONS

**Skin contact:**  
 Move the victim to fresh air and remove all contaminated clothing, shoes and leather goods. Gently wipe off excess chemical. Wash affected skin areas gently and thoroughly with water and non-abrasive soap. Do not rub the skin. If irritation persists, seek medical advice. Allergic skin reaction should be treated as an allergic contact dermatitis with anti-inflammatory agents.  
**Eye contact:**  
 Immediately flush the contaminated eyes with gently flowing lukewarm water or saline solution for 20 minutes, holding the eyelid(s) open. Get medical attention, if necessary.  
**Inhalation:**  
 Remove source of contamination or move victim to fresh air. Monitor for respiratory distress. If breathing has stopped, perform artificial respiration and administer oxygen. Keep person warm and at rest. Obtain medical attention if necessary.  
**Ingestion:**  
 If the person is conscious, give large quantities of water to dilute the material if victim is alert and not convulsing. Avoid fats, oils and lipid solvents as these increase absorption of Thiram. **Never induce vomiting.** Never give anything by mouth to a person who is unconscious or convulsing. Qualified medical personnel should perform administration of gastric lavage or oxygen. **Seek medical advice immediately.**

**Advise to Physician:**  
 Tetramethylthiuram disulfide is the methyl analog of ant-abuse. Consumption of small amounts of alcohol and acute or chronic tetramethylthiuram disulfide exposure will cause similar effects as ant-abuse. These include palpitations, nausea, vomiting, headaches, and shortness

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of breath. Prohibit ethyl alcohol in all forms for at least 10 days.

Treat symptomatically and supportively.

If ingested, give Syrup of Ipecac, followed by one to two glasses of water to induce vomiting. Following emesis, administer 30 to 50 g of activated charcoal to bind the toxicant. Follow charcoal with 0.25 g/kg body weight of sodium or magnesium sulphate, to remove toxicant by catharsis.

### 5. FIRE FIGHTING MEASURES

**Fire and explosion hazard:**

Product is not flammable.

**Special Hazards:**

In fire situations or exposure to heat, toxic oxides of nitrogen and oxides of sulfur can be released.

**Extinguishing agents:**

Extinguish small fires with carbon dioxide, dry powder, or alcohol-resistant foam. Water spray can be used for cooling of unaffected stock, but avoid water coming in contact with the product. Contain water used for fire fighting for later disposal. Avoid the accumulation of polluted run-off from the site.

**Fire fighting:**

Remove spectators from surrounding area. Isolate the fire area and evacuate downwind. Use a recommended extinguishing agent for the type of surrounding fire.

Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Contain fire control agents for later disposal. Avoid inhaling hazardous vapours. Keep upwind.

Remove container from fire area if possible and without risk. Water can be used to cool unaffected containers but must be contained for later disposal.

Dyke fire control water for later disposal. Do not scatter the material. Avoid pollution of waterways.

Do not use high volume water jet, due to contamination risk. Contain water used for fire fighting for later disposal. Avoid the accumulation of polluted run-off from the site.

**Personal protective equipment:**

Fire fighters and others that may be exposed should wear full protective clothing and self-contained breathing apparatus.

### 6. ACCIDENTAL RELEASE MEASURES (SPILLAGE)

**Personal precautions:**

Do not inhale dusts. Ventilate area of spill or leak, especially confined areas. Avoid contact with skin, eyes or clothes. For personal protection see Section 8.

**Environmental precautions:**

Do not allow entering drains or watercourses. This product is toxic to fish. Spillage or uncontrolled discharges

into water courses (or public waters) to be reported immediately to the Police and to the Department of Water/Environmental Affairs.

**Occupational spill:**

For dry spills, shovel up and sweep up with damp earth or sand or other suitable absorbents, taking care not to raise a dust cloud. Place the material into a labeled, clean, dry container and cover for subsequent disposal; and store in a safe place to await proper disposal. All contaminated cleaning materials should be placed in closable receptacles.

In situations where product comes in contact with water, contain contaminated water for later disposal. Do not flush spilled material into drains. Do not contaminate water while cleaning equipment or disposing of wastes. Keep spectators away and upwind.

### 7. HANDLING AND STORAGE REQUIREMENTS

**Handling:**

Remove sources of naked flame or sparks. Avoid contact with eyes and skin and inhalation of dust and fumes. Use with adequate ventilation or mechanical dust extraction should be provided. Contact with the product may cause allergic reaction. Avoid consumption of alcohol before and after handling the product. Wash hands before eating, drinking, chewing gum, smoking or using the toilet. Operators should change and wash clothing daily. Remove clothing immediately if the insecticide gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. Do not apply directly to areas where surface water is present, or to intertidal areas below the mean high water mark. Water used to clean equipment must be disposed of correctly to avoid contamination.

**Storage:**

Store in its original container in isolated, dry, cool and well-ventilated area. Keep from contact with other pesticide, fertilizers and seeds during storage. Store away from incompatible substances. Product is incompatible with strong acids, oxidizers and copper. Not to be stored next to foodstuffs and water supplies. Keep under lock and key out of reach of unauthorized persons, children and animals. Local regulations should be complied with.

**Storage stability:**

Considered stable for a period of 2 years in normal air, warehouse and light conditions, if kept in closed container.

### 8. EXPOSURE CONTROL / PERSONAL PROTECTION

**Occupational exposure limits:**

OSHA PEL: 5 mg/m<sup>3</sup>

ACGIH TLV 1 mg/m<sup>3</sup>

**Engineering control measures:**

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It is essential to provide adequate ventilation to keep airborne concentrations of **THIRAM 750 WP** dust below permissible exposure levels. The measures appropriate for a particular work site depend on how this material is used and on the extent of exposure. Ensure that control systems are properly designed and maintained. Only spark-resistant equipment should be used. Comply with occupational safety, environmental, fire and other applicable regulations.

### PERSONAL PROTECTIVE EQUIPMENT:

If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal equipment including approved respiratory protection.

#### Respirator:

An approved filtering respirator suitable for protection from dusts and mists of pesticides is required. Limitations of respirator use specified by the approving agency and the manufacturer must be observed.

#### Clothing:

Employee must wear appropriate protective (impervious) clothing and equipment to prevent skin contact with the substance.

#### Gloves:

Employee must wear appropriate chemical resistant protective gloves to prevent contact with this substance.

#### Eye protection:

Employee must wear splash-proof safety goggles to prevent contact with this substance.

**Emergency eyewash:** Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

#### Appearance:

White to pale yellow free flowing fine powder.

#### Odour:

Slight characteristic odour.

#### Solubility in water:

Wettable powder - disperses to form a stable suspension.

#### Flash point:

Not applicable.

#### Corrosive:

Non-corrosive in dry state.

## 10. STABILITY AND REACTIVITY

#### Storage stability:

Considered stable at normal warehouse and storage conditions, if kept in labeled and closed, original container. Avoid excessive heat.

### Incompatibility:

Reacts with acids to form carbon disulfide and hydrogen sulphide. Do not use in tank mixture with lime sulphur, copper, lime, acidifying agents, phosphorous agents or other pH sensitive products.

### Hazardous decomposition:

Heating to decomposition generates carbon disulfide and oxides of carbon, nitrogen and sulfur. Acid decomposition may evolve carbon disulfide and hydrogen sulphide.

## 11. TOXICOLOGICAL INFORMATION

#### Acute oral LD<sub>50</sub>:

> 500 mg/kg in rats.

#### Acute dermal LD<sub>50</sub>:

> 1 000 mg/kg in rats.

#### Acute inhalation:

Not determined.

Technical: LC<sub>50</sub> for rats: 4.42 mg/l air (4 hours)

#### Acute skin irritation:

Causes moderate skin irritation. Is a skin sensitizer.

#### Acute eye irritation:

Causes moderate eye irritation.

#### Reproductive toxicity:

Results from studies on mice suggest that reproductive effects occur at high doses are not likely to be experienced by humans.

#### Teratogenic effects:

Results from studies on mice, hamsters and rats suggest that high doses are required to cause teratogenic effects.

#### Mutagenic effects:

Evidence is inconclusive.

#### Carcinogenic effects:

Results from studies suggest that **Thiram** is not carcinogenic.

Due to silica: Evidence of human carcinogenicity from long-term exposure. IARC consider silica as carcinogen. NTP consider silica as substance with limited evidence of carcinogenicity in humans.

#### Acceptable Daily Intake:

0.005 mg/kg/day

## 12. ECOLOGICAL INFORMATION

### ECOTOXICOLOGY:

#### Degradation:

In soil: **Thiram** is of low persistence and nearly immobile. **Thiram** has a strong tendency to absorb to soil particles and is not expected to contaminate groundwater. The soil half-life is reported as 15 days. The major metabolites are copper dimethyldithiocarbamate, dithiocarbamate, dimethylamine and carbon disulfide. Degradation is by microbial action or by hydrolysis under acidic conditions.

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**In water:** Thiram is rapidly broken down by hydrolysis and photodegradation, especially under acidic conditions. Thiram may adsorb to suspended particles or to sediment.

**Birds: Non-toxic to birds.**

LD <sub>50</sub>	Mallard duck:	> 2800 mg/kg
	Starling:	> 100 mg/kg
LC <sub>50</sub> (8 day diet)	Mallard duck:	> 5000 ppm
	Bobwhite quail:	> 3950 ppm

**Fish: Highly toxic to fish. Thiram is not expected to bio-concentrate in aquatic organisms.**

LC <sub>50</sub> (96 h)	Rainbow trout:	0.128 mg/l
LC <sub>50</sub> (96 h)	Bluegill sunfish:	0.0445 mg/l

**Bees: Non-toxic to bees.**

LD <sub>50</sub> (contact):	75% Formulation:	73.7 µg/bee
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**Daphnia:**

LC <sub>50</sub> (48 h)		0.21 mg/l
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### 13. DISPOSAL CONSIDERATION

**Pesticide disposal:**

Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product that cannot be reused or reprocessed. Never pour untreated waste or surplus products into public sewers or where there is any danger of run-off or seepage into water systems. Do not contaminate rivers, dams or any other water sources with the product or used containers.

Comply with local legislation applying to waste disposal.

**Package product wastes:**

Emptied containers retain vapour and product residues. Observe all labeled safeguards until container is destroyed. Empty the container of excess product into the container of the applicator. Destroy the emptied containers by perforation and flattening. Bury in an approved, designated landfill. Do not re-use the empty container for any other purpose.

Comply with any local legislation applying to disposal.

### 14. TRANSPORT INFORMATION

<b>UN NUMBER:</b>	3077
<b>ADR/RID:</b>	
Shipping name:	Environmentally Hazardous Substance, Solid, N.O.S (Thiram 75 %)
<b>IMDG/IMO:</b>	
Packaging group:	III
Class:	9
Shipping name:	Environmentally Hazardous Substance, Solid, N.O.S (Thiram 75%)
<b>ICAO/IATA:</b>	

Shipping name:	Environmentally Hazardous Substance, Solid, N.O.S (Thiram 75%)
Class:	9
Hazard Label:	Miscellaneous.
Packaging group:	III
<b>MARINE POLLUTANT</b>	

### 15. REGULATORY INFORMATION

<b>Symbol:</b>	Xn, N
<b>Indication of danger:</b>	Harmful, Environmentally Dangerous substance

**Risk phrases:**

- R 20/22** Harmful by inhalation and if swallowed.
- R 36/37/38** Irritating to eyes, respiratory system and skin.
- R 40** Limited evidence of a carcinogenic effect.
- R 51** Toxic to aquatic organisms.

**Safety phrases:**

- S 1/2** Keep locked up and out of reach children.
- S 23** Do not breathe dust and/or spray.
- S 24/25** Avoid contact with skin and eyes.
- S36/37/39** Wear suitable protective clothing, gloves and eye/face protection.
- S 61** Avoid release to the environment.

### 16. OTHER INFORMATION

**Packing and Labeling**

Packed in 1, 2, 5, 10, 20 & 25 kg plastic containers and/or paper bags and labeled according to South African regulations and guidelines.

**Disclaimer**

The information on this sheet is not a specification; it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage use of the product. It is not applicable to unusual or non-standard uses of the product nor where instructions or recommendations are not followed. All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors and omissions or the consequence thereof.

### END OF DOCUMENT

<b>Compiled:</b>	April 2002
<b>Revised:</b>	June 2019
<b>Revision no:</b>	(3)
<b>Next revision:</b>	June 2024

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For detailed information on revisions, contact the Registration holder.