with us you are growing goodness



MERIDIAN AGROCHEMICAL COMPANY (PTY) LTD P.O. Box 436, Modderfontein, 1645, SOUTH AFRICA Tel +27 11 822 8509 | Fax +27 11 822 3494 | E-mail info@agritech.co.za | www.intelichem.co.za | www.agritech.co.za

REG NO: 2000/010819/07 **VAT NO:** 4120189206

Safety Data Sheet

RAM 75WP L10951 (Act 36 of 1947)

1) PRODUCT AND COMPANY IDENTIFICATION			
Product name:	THIRAM 750 WP		
Other means of identification:	NA		
Chemical Name:	Thiram (IUPAC): bis(dimethylthiocarbamoyl) disulfide,		
	tetramethylthiuram disulfide		
Recommended use:	Fungicide		
Restrictions on use:	Agriculture		
UN No:	3077		
Distributed by:	MERIDIAN AGRITECH		
	P O BOX 436		
	MODDERFONTEIN		
	TEL 011 8228509 FAX 0866901386		
	MOBILE: 0834006056		
Face and the second sec	www.agritech.co.za		
Emergency Number:	POISON CENTRE (UNITAS HOSPITAL)		
	012 664 1100 TVCERREDC:024 024 0420		
	TYGERBERG:021 931 6129		
	RED CROSS 021 689 5227 RAPID SPILL RESPONSE 0800 775 3305		
	GRIFFON POISON CENTRE: 082 446 8946		
2) HAZADDS IDENTIFICATION.	GRIFFON FOISON CENTRE. 002 440 0940		
2) HAZARDS IDENTIFICATION: Classification of the substance/mixture:	Aguta Tayloity (Oral) Catagory 4		
Classification of the substance/mixture:	Acute Toxicity (Oral) Category 4 Acute Toxicity (Inhalation) Category 4		
	Skin Irritation Category 2		
	Eye Irritation Category 2		
	Skin Sensitization Category 1		
	STOT RE Category 2		
	Aquatic Acute Category 1		
	Aquatic Chronic Category 1		
Label Elements:	, , , , , , , , , , , , , , , , , , ,		
Globally Harmonized System, EU (GHS):	Pictogram:		
	\wedge \wedge \wedge		
	W		
	(±2) (±2) (T)		
	Signal word: Warning		
	Harris Otatamanta		
	Hazard Statements: H302: Harmful if swallowed.		
	H315: Causes skin irritation.		
	H317: May cause an allergic skin reaction.		
	H319: Causes serious eye irritation.		
	H332: Harmful if inhaled.		
	H373: May cause damage to organs through prolonged or		
	repeated exposure.		
	H400: Very toxic to aquatic life.		
	H410: Very toxic to aquatic life with long-lasting effects.		
	Precautionary Statements:		
	P201: Obtain special instructions before use.		
	P201. Obtain special instituctions before use. P202: Do not handle until all safety precautions have been		
	read and understood.		
	P260: Do not breathe dust/mist.		
	. 200. 20 1101 01041110 44001111011		

P262: Do not get in eyes, on skin, or on clothing.

P264: Wash face and hands thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P271: Use only outdoors or in a well-ventilated area.

P273: Avoid release to the environment.

P280: Wear protective gloves/protective clothing/eye

protection/face protection.

P284: In case of inadequate ventilation wear respiratory protection.

P403+233: Store in a well-ventilated place. Keep container tightly closed.

According to Directive 67/548/EEC No. 1272/2008 [CLP]

Hazard symbols:

N: Dangerous for the environment

Xn: Harmful Xi: Irritant

R-phrase(s):

R20/22: Harmful by inhalation and if swallowed.

R36/37/38: Irritating to eyes, respiratory system and skin.

R40: Limited evidence of a carcinogenic effect. R43: May cause sensitization by skin contact.

R48: Danger of serious damage to health by prolonged exposure.

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrase(s):

\$1/2: Keep locked up and out of reach of children.

\$3: Keep in a cool place.

S7: Keep container tightly closed.

\$13: Keep away from food, drink and animal feeding stuffs.

\$20/21: When using, do not eat, drink or smoke.

\$23: Do not breathe dust/mist.

\$24/25: Avoid contact with the skin and eves.

S28: After contact with skin, wash immediately with plenty of

\$35: This material and its container must be disposed of in a safe way.

\$36/37/39: Wear suitable protective clothing, gloves and eye/face protection.

\$57: Use appropriate containment to avoid environmental contamination.

S61: Avoid release to the environment. Refer to special instructions/Safety data sheets.

3) COMPOSITION / INFORMATION ON INGREDIENTS:

3.1 Substances:

Not applicable

3 2 Mivtures

Chemical name	Concentration	CAS No.	EC No.	Classification according to Regulation EC 1272/2008 (CLP)
Thiram	750 g/kg	137-26-8	205-286-2	Acute Tox. Cat. 4 (H302) Skin Irrit. Cat. 2 (H315) Eye Irrit. Cat. 2 (H319) Skin Sens. Cat. 1 (H317) Acute Tox. Cat. 4 (H332) STOT RE Cat. 2 (H373) Aquatic Acute Cat. 1 (H400) Aquatic Chronic Cat. 1 (H410)

4) FIRST AID MEASURES:

Description of First-Aid Measures:

Inhalation:

Remove patient to fresh air. Loosen clothing around neck. Lie down and keep warm and rested. If breathing is shallow or has stopped, ensure airway is clear and apply resuscitation. If breathing is laboured oxygen should be supplied by qualified

personnel only. Seek medical assistance if necessary. Skin contact: Immediately flush body and clothes with large amounts of water. Remove contaminated clothing and footwear. Wash skin gently but thoroughly with plenty of water and nonabrasive soap for 15 to 20 minutes. Do not rub skin. Persons providing first aid must wear gloves to avoid selfcontamination. Seek medical assistance if irritation persists. Persons who become sensitized may require specialized medical management with anti-inflammatory agents or cortisone-containing emulsions. Eve contact: Immediately flush eyes with a stream of gently flowing lukewarm water or saline solution for 20 minutes, holding eyelids open. Seek medical assistance if necessary. Ingestion: If patient is fully conscious, give two glasses of water to drink. Do not induce vomiting unless told to do so by the poison control centre or doctor. Do not give milk, oily products, fat or alcohol. Do not give anything to an unconscious person. Seek medical assistance immediately. Most important symptoms and effects, both acute and Itching, scratchy throat, sneezing and coughing. Accidental delayed: ingestion has caused nausea, vomiting, diarrhoea, headache, ataxia, confusion and fatigue. Indication of any immediate medical attention and No specific antidote known. Treat symptomatically. If special treatment needed: swallowed, induce vomiting with SYRUP OF IPECAC or INTUBATE the stomach. If reaction with alcohol occurs, treat as disulfiram-alcohol reaction. Thiram is not a member of the ethylene(bis)dithiocarbamate (EBDC) chemical family, and thus should not generate ethylene thiourea (ETU). 5) FIRE-FIGHTING MEASURES: **Extinguishing Media:** Carbon dioxide, dry chemical powder, or alcohol-resistant foam. Water spray can be used for cooling of unaffected stock, but avoid water coming in contact with the product. **Unsuitable Extinguishing Media:** High volume water jet due to contamination risk. Specific Hazards arising from the substance/mixture: Fire may produce irritating or poisonous gasses or vapors, such as oxides of carbon and oxides of nitrogen. 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 and fumes from burning materials. 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. Do not scatter the burning material. Avoid pollution of waterways by run-off from the site. Full protective clothing and self-contained breathing Protective clothing: apparatus. 6) ACCIDENTAL RELEASE MEASURES: Personal precautions, protective equipment and Avoid contact with spilled product or contaminated surfaces. Avoid contact with skin and eyes. Do not swallow. Do not emergency procedures: breathe in dust or fumes. Clear the area and shut off the source of the leak only under safe conditions. Extinguish any sources of ignition nearby and downwind. Ensure adequate ventilation. For personal protection see Section 8. **Environmental precautions:** Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system. Do not allow to enter drains or watercourses. If contamination of water

Methods and material for containment and cleaning up:

courses is unavoidable, report to the Police and the Department of Water/Environmental Affairs immediately.

Wear protective clothing and avoid breathing dust. Clear area of unprotected personnel. Ventilate area. Contain and sweep up with damp earth or sand or other suitable absorbent, such as sawdust, taking care not to raise a dust cloud. Place the material in clean dry waste containers. Label containers with the contents and dispose of according to local regulations. All contaminated cleaning materials should be placed in closable receptacles. If the product comes into contact with water, the contaminated water should be contained for later disposal. Do not flush spilled material into drains or sewers.

For large spills, sweep spilled substance into sealable containers. If appropriate, moisten first to prevent the formation of dust

Spilled product cannot be re-used and must be disposed of by incineration or disposal in a chemical waste disposal facility. If containers cannot be recycled, they should be disposed of together with the waste chemical.

7) HANDLING & STORAGE:

Precautions for Safe Handling:

Avoid skin and eye contact and inhalation of dust and vapours. Ensure adequate ventilation. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke. Wash contaminated clothing before re-use. Keep working clothes separately. Follow all label warnings even after the container is emptied. Avoid all direct contact with the product. Wear suitable personal protection.

APPROVED HANDLER: This product must be under the control of an approved handler when applied in a wide dispersive manner; or used by a commercial contractor.

Conditions for Safe Storage, including any incompatibilities:

Store in original, labelled container tightly closed and in a locked, dry, cool, well-ventilated area away from heat, sparks and other sources of ignition.

Keep away from animals, children or uninformed persons. Do not store for prolonged periods in direct sunlight. Protect from temperature extremes (Below 0°C and above 50°C). Avoid breaking the containers, spillages or leaks. Do not allow the product to become overheated in storage. Do not store next to foodstuffs and water supplies. Local regulations should be complied with.

8) EXPOSURE CONTROL / PERSONAL PROTECTION:

Appropriate Engineering Controls:

It is essential to provide adequate ventilation. 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. Comply with occupational safety, environmental, fire, and other applicable regulations.

Control Parameters: Occupational exposure limits:

NA

PERSONAL PROTECTIVE EQUIPMENT:

Consult supplier to confirm that the equipment is suitable.

Clothing:

Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance. Wear long-sleeved shirt and long pants, hat, chemical-resistant footwear. Wash contaminated clothing and clean protective equipment before re-use. Do not wear leather clothing.

Respiratory protection:

It is usually safe to use the product without a respirator. Where exposure through inhalation may occur during the handling or using of the product, wear a face mask. If the product is used in dusty or confined conditions or under spillage or fire conditions, a respirator should be used. An approved full-face respirator that is suitable for protection from dusts and mists of

	pesticides is required. Limitations of the respirator specified by the approving agency and the manufacturer must be observed.		
Gloves:	Employee must wear appropriate chemical-resistant gloves to prevent prolonged, direct contact with this substance.		
Eye protection:	Wear a face shield when handling the concentrate or when applying the product. The use of safety goggles with side shields is recommended if a face shield is not available.		
Emergency eye wash:	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 & CHEMICAL PROPERTIES:	miniodiate well discussion energency deel		
Appearance:	Cream white powder		
Odour:	Characteristic odour		
Solubility:	Suspends in water		
pH:	6.5 – 8.5		
Odour threshold:	Not available		
Melting point / Freezing point	144 - 146 °C (Thiram TC)		
Initial boiling point and boiling range	Not available		
Flash point:	Not flammable		
Evaporation rate:	Not available		
Flammability (solid, gas)	Not flammable		
Upper/ lower flammability or explosive limits:	Not explosive		
Vapour pressure:	Not available		
Vapour density: Relative density:	Not available 1.00		
Partition coefficient: n-octanol/water	K _{ow} 1.84 (Thiram TC)		
Auto-ignition temperature:	Not available		
Decomposition Temperature:	Not available		
Viscosity:	Not available		
10) STABILITY & REACTIVITY:			
Reactivity:	No hazardous reactions if stored and handled as indicated.		
Chemical Stability:	When stored appropriately this product should show no significant degradation for 2 years from the date of manufacture.		
Possibility of hazardous reactions:	Polymerization will not occur.		
Conditions to avoid:	Avoid prolonged exposure to heat, air or moisture.		
Incompatible materials:	Avoid oxidizing and nitrating materials, strong acids and strong alkaline materials.		
Hazardous decomposition product(s):	Formation of toxic oxides of carbon and nitrogen and fumes that cause irritation.		
11) TOXICOLOGICAL INFORMATION:			
Acute Toxicity:	LD 5000 #		
Oral:	LD ₅₀ >5 000 mg/kg		
Dermal:	LD ₅₀ >5 000 mg/kg		
Inhalation: Skin Corrosion/Irritation:	LC ₅₀ 3.46 mg/L (female), >5.04 (male) (4h)		
Serious Eye Damage/Irritation:	Moderately irritating Moderately irritating		
Respiratory or Skin Sensitization:	Mild dermal sensitization		
Germ Cell Mutagenicity:	Thiram has been found to be mutagenic in some test		
	organisms but not in others. The evidence is thus		
	inconclusive.		
Carcinogenicity:	Data indicate that thiram is not carcinogenic.		
Reproductive Toxicity:	Data suggest that reproductive effects occur at high doses but		
·	is not likely to be experienced by humans.		
STOT-SE:	No data available		
STOT-RE:	May cause damage to organs through prolonged or repeated		
	exposure. Studies have shown evidence of damage to the		

	liver in the form of decreased liver enzyme activity and		
	increase lover weight. Thiram may also cause damage to the		
	nervous system, blood and kidneys.		
Aspiration Hazard:	No data available		
12) ECOLOGICAL INFORMATION:			
Ecotoxicity: Birds:	Aguta aral I D-, far babushita guail 020, mala ring nackad		
birds:	Acute oral LD ₅₀ for bobwhite quail 930, male ring-necked pheasants 673, mallard ducks >2800, starlings >100, redwing		
	blackbirds >100 mg/kg. Dietary LC ₅₀ (5 d) for ring-necked		
	pheasants >5000, mallard ducks >5000, bobwhite quail		
	>3950, Japanese quail >5000 mg/kg diet.		
Fish:	LC ₅₀ (96 h) for bluegill sunfish 0.13, channel catfish 0.233,		
	rainbow trout 0.171, sheepshead minnows 0.54. fathead		
Daphnia:	minnows 0.188, guppies 0.216 mg/l. EC ₅₀ (48 h) 0.139 mg/l.		
Algae:	E _r C ₅₀ (72 h) for <i>Pseudokirchneriella subcapitata</i> >0.141 mg/l.		
Worms:	LC ₅₀ (14 d) for earthworms 540 mg/kg soil.		
Bees:	>107 (oral), >100 (contact) µg/bee.		
Persistence and Degradability:	Low to moderate persistence. DT ₅₀ (aerobic) 4.8 days (20 °C,		
	mean 4 soils). Thiram degrades more rapidly in acidic soils		
	and in soils high in organic matter.		
Bio-accumulative Potential: Mobility in Soil:	No data available. Nearly immobile in clay soils or soils that is high in organic		
MODIFILY III 30II.	matter. It only slightly soluble in water and has a strong		
	tendency to absorb to soil particles. Thiram is not expected to		
	contaminate groundwater.		
13) DISPOSAL CONSIDERATIONS:			
Waste Disposal:	In accordance with local and national regulations.		
	Must be incinerated in a suitable incineration plant holding a		
	permit delivered by the competent authorities. Do not		
	contaminate water, food or feed by disposal. Wastes resulting from the use of this product cannot be reused and		
	may be disposed of on site or at an approved chemicals		
	waste disposal facility. Open bumping or burning of this		
	pesticide is prohibited.		
Container Disposal:	Refer to the product label for instructions.		
	Empty the container of excess product by emptying it over or		
	into mixing tank. Destroy the empty container by perforation and flattening and		
	dispose of it in a safe manner according to local regulations.		
	DO NO REUSE THE CONTAINER FOR ANY OTHER		
	PURPOSE.		
	Do not burn the empty container.		
44) TRANSPORTATION INFORMATION	Do not transport if this container is damaged or leaking.		
14) TRANSPORTATION INFORMATION: Road Transport ADR / IRD:	UN NUMBER: 3077		
Road Transport ADR / IRD.	UN Proper Shipping name: ENVIRONMENTALLY		
	HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Thiram 75%)		
	Transport Hazard Class: 9 Miscellaneous Dangerous Goods		
	Packaging group: III		
	Labelling no: 9		
	Environmental Hazards: Not applicable Special Precautions for User: Read safety instructions, SDS		
	and emergency procedures before handling.		
Maritime Transport IMDG / IMO:	UN NUMBER: 3077		
•	UN Proper Shipping name: ENVIRONMENTALLY		
	HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Thiram 75%)		
	Transport Hazard Class: 9 Miscellaneous Dangerous Goods		
	Packaging group: III		
	Labelling no: 9 Environmental Hazards: Marine Pollutant		
	Special Precautions for User: Read safety instructions, SDS		
	and emergency procedures before handling.		
Air Transport ICAO / IATA:	UN NUMBER: 3077		
•	UN Proper Shipping name: ENVIRONMENTALLY		
	HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Thiram 75%)		
	Transport Hazard Class: 9 Miscellaneous Dangerous Goods		
	Packaging group: III		
	Labelling no: 9		

	Environmental Hazards: Not applicable Special Precautions for User: Read safety instructions, SDS and emergency procedures before handling.			
Transport in Bulk (according to Annex II of MARPOL 73/78 and the IBC Code):	Not applicable			
15) REGULATORY INFORMATION:				
Safety, health and environmental regulations/legislation specific for the substance/mixture:	For the user of this plant-protective product applies: 'To avoid risks to man and the environment, comply with the instructions for use.' (Directive 1999/45/EC, Article 10, No. 1.2)			
Chemical Safety Assessment:	Advice on product handling can be found in sections 7 and 8 of this safety data sheet.			

16) OTHER INFORMATION:

All information and instructions provided in this Safety Data Sheet (SDS) are based on the current state of scientific and technical knowledge at the date indicated on the present SDS 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.

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Date of issue: 23/03/2018

Abbreviations and acronyms:

- 1. CAS number: Chemical Abstracts Service number.
- 2. CLP: Classification, Labelling, Packaging.
- 3. LD_{50} : Lethal Dose for 50% of the test population.
- 4. LC₅₀: Lethal Concentration for 50% of the test population.
- 5. DT₅₀: Half-life.
- 6. GHS: Globally Harmonised System (of Classification and Labelling of Chemicals).
- 7. STOT-RE: Specific Target Organ Toxicity-Repeated Exposure
- 8. STOT-SE: Specific Target Organ Toxicity-Single Exposure

Literature References:

- GHS: www.ccohs.ca/oshanswers/chemicals/ghs.html
- ECHA: https://echa.europa.eu/search-chemicals