



Material Safety Data Sheet

SECTION 1: IDENTIFICATION OF THE CHEMICAL PRODUCT

Product Name: MANCOZZ 750 WG FUNGICIDE

Product Type: Group Y Fungicide/Dithiocarbamate compound.

Product Use: For the control of certain fungus diseases of fruit, field crops, tobacco, turf, vegetables and ornamentals as per the Directions for Use Table.

SECTION 2 : HAZARD IDENTIFICATION

Statement of Hazardous Nature

This product is classified as: Hazardous according to the criteria of NOHSC Australia.

Note: This product range is classed as a MARINE POLLUTANT only and so the Dangerous Goods classification which follows is for MARINE transport only. Not classed as a Dangerous Good for Storage or Road and Rail transport.

Risk Phrases: R37, R43, R51. Irritating to respiratory system. May cause sensitisation by skin contact. Toxic to aquatic organisms.

Safety Phrases: S22, S28, S38, S60, S61. Do not breathe dust. After contact with skin, wash immediately with plenty of soap and water. In case of insufficient ventilation, wear suitable respiratory equipment. This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions or safety data sheets.

ADG Classification: Class 9 (ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., contains Mancozeb)

UN Number: 3077

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS	Proportion
Mancozeb	8018-01-7	75 %
Inert	-	25%

Exposure limits have not been established by ASCC for these ingredients ie. No TWA or STEL limits set.

SECTION 4: FIRST AID MEASURES

Call The Poisons Information Centre if you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this MSDS with you when you call.

Inhalation: If inhalation occurs, contact a Poisons Information Centre, or call a doctor at once. Remove source of contamination or move victim to fresh air. If breathing is difficult, oxygen may be beneficial if administered by trained personnel, preferably on a doctor's advice. DO NOT allow victim to move about unnecessarily. Symptoms of pulmonary oedema can be delayed up to 48 hours after exposure.

Skin Contact: If poisoning occurs, contact a Poisons Information Centre, or call a doctor at once. Irritation is unlikely. However, if irritation does occur, flush with lukewarm, gently flowing water for 5 minutes or until chemical is removed. If in doubt obtain medical advice.

Eye Contact: No effects expected. If irritation does occur, flush contaminated eye(s) with lukewarm, gently flowing water for 5 minutes or until the product is removed. Obtain medical advice if irritation becomes painful or lasts more than a few minutes.

Ingestion: If in doubt, contact a Poisons Information Centre or a doctor. Drink water.

Advice to Doctor: Treatment is symptomatic.

SECTION 5: FIRE FIGHTING MEASURES

Fire and Explosion Hazards: There is no risk of an explosion from this product under normal circumstances if involved in a fire. Fire decomposition products from this product are likely to be irritating if inhaled. This product may decompose only after heating to dryness, followed by further strong heating.

Extinguishing Media: Not Combustible. Use extinguishing media suited to burning materials ie. foam, dry powder, carbon dioxide or water spray.

Fire Fighting: When fighting fires involving significant quantities of this product, wear a splash suit complete with self contained breathing apparatus.

Flash point: Will not burn until water component is driven off.

Upper Flammability Limit: Does not burn. **Lower Flammability Limit:** Does not burn.

Autoignition temperature: Does not burn. **Flammability Class:** Does not burn.

SECTION 6: ACCIDENTAL RELEASE MEASURES

In the event of an accidental spill, control spill at source and prevent spillage from entering drains or water courses. Wear full protective clothing including face mask and face shield. All skin areas should be covered. Wear protective gloves of rubber, PVC. Absorb onto sand, vermiculite or other suitable absorbent material. If spill is large or if absorbent material is not available create a barrier to stop material spreading and going into drains or waterways.

Avoid using sawdust or other combustible material. Sweep up and pump recoverable product into labelled containers for salvage, and dispose of promptly at approved site.

After spill, wash area preventing runoff from entering drains or waterways. If significant quantity enters drains, advise emergency services and EPA.

SECTION 7: HANDLING AND STORAGE

Handle with care and keep exposure to this product to a minimum as practical. Ensure adequate ventilation whilst handling product.

Store in closed, original container in a well-ventilated shaded area. Keep container tightly closed when not in use. Keep container out of reach of children. **DO NOT** store for prolonged periods in direct sunlight.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure limits have not been established by ASCC for these ingredients ie. No TWA or STEL limits set. No biological limits applicable.

Ensure adequate ventilation and reduced dust in a shaded dry storage.

Personal Protective Equipment:

Australian Standards regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Industrial Clothing: **AS2919**, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**

Eyes: Protective glasses or goggles should be worn when this product is being handled. Emergency eye wash facilities should be available where this product is being handled.

Skin: Prevent skin contact by wearing impervious gloves, clothes and, preferably overalls. Ensure all skin areas are covered.

Inhalation: Where product is being sprayed and a mist could be produced a respirator should be worn. It should be fitted with a type G cartridge, suitable for agricultural chemicals.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical Description & colour: Yellow powder.

Odour: Mild sulfurous odour.

Boiling Point: Not applicable.

Freezing/Melting Point: Mancozeb decomposes without melting at 190--200°C

Volatiles: No specific data. Expected to be low at 100°C.

Vapour Pressure: Negligible at normal room temperatures.

Vapour Density: No data.

Specific Gravity: No data.

Water Solubility: Dispersible.

pH: No data.

Volatility: No data.

Odour Threshold: No data.

Evaporation Rate: No data.

Autoignition temp: No data.

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability: Stable under normal temperatures and pressures

Reactivity: This product is unlikely to react or decompose under normal storage conditions.

Conditions to Avoid: Direct sunlight and lack of ventilation

Incompatibilities: strong acids, strong bases, strong oxidising agents.

Hazardous Polymerization: Hazardous polymerisation is not possible.

SECTION 11: TOXICOLOGICAL INFORMATION

Information profile for Mancozeb is available at <http://extoxnet.orst.edu/pips/ghindex.html>

Acute toxicity: Mancozeb is practically nontoxic orally with reported oral LD50 of more than 5000 to more than 11,200 mg/kg in rats. Dermal it is also practically nontoxic, with reported dermal LD50 values of more than 10,000 mg/kg in rats, and more than 5000 mg/kg in rabbits. It is a mild skin irritant and sensitizer, and a mild to moderate eye irritant in rabbits. Workers with occupational exposure to Mancozeb have developed sensitization rashes.

Chronic toxicity: No toxicological effects were apparent in rats fed dietary doses of 5 mg/kg/day in a long-term study. Impaired thyroid function was observed as lower iodine uptake after 24 months in dogs fed doses of 2.5 and 25 mg/kg/day of Mancozeb, but not in those dogs fed 0.625 mg/kg/day. A major toxicological concern in situations of chronic exposure is the generation of ethylenethiourea (ETU) in the course of Mancozeb metabolism, and as a contaminant in Mancozeb production. ETU may also be produced when EBDCs are used on stored produce, or during cooking. In addition to having the potential to cause goiter, a condition in which the thyroid gland is enlarged, this metabolite has produced birth defects and cancer in experimental animals.

Reproductive effects: In a three-generation rat study with Mancozeb at a dietary level of 50 mg/kg/day there was reduced fertility but no indication of embryotoxic effects. It is unlikely that Mancozeb will produce reproductive effects in humans under normal circumstances.

Teratogenic effects: No teratogenic effects were observed in a three-generation rat study with Mancozeb at a dietary level of 50 mg/kg/day. Developmental abnormalities of the body wall, central nervous system, eye, ear, and musculoskeletal system were observed in experimental rats which were given a very high dose of 1320 mg/kg of Mancozeb on the 11th day of pregnancy. In view of the conflicting evidence, the teratogenicity of Mancozeb is properly known.

Mutagenic effects: Mancozeb was found to be mutagenic in one set of tests, while in another it did not cause mutations. Mancozeb is thought to be similar to Maneb, which was not mutagenic in the Ames Test. Data regarding the mutagenicity are inconclusive but suggest that Mancozeb is either not mutagenic or weakly mutagenic.

Carcinogenic effects: No data are available regarding the carcinogenic effects of Mancozeb. While studies of other EBDCs indicate they are not carcinogenic, ETU (a Mancozeb metabolite), has caused cancer in experimental animals at high doses. Thus, the carcinogenic potential of Mancozeb is not currently known.

Organ toxicity: The main target organ of Mancozeb is the thyroid gland; the effects may be due to the metabolite ETU.

Fate in humans and animals: Mancozeb is rapidly absorbed into the body from the gastrointestinal tract, distributed to various target organs, and almost completely excreted in 96 hours. ETU is the major Mancozeb metabolite of toxicological significance, with carbon disulfide as a minor metabolite.

SECTION 12: ECOLOGICAL INFORMATION Known Harmful Effects on the Environment

Effects on birds: Mancozeb is not harmful to birds, with reported -day dietary LC50 values in bobwhite quail and mallard ducklings of greater than 10,000 ppm. The 10-day dietary LC50 values of 6400 ppm and 3200 ppm are reported for mallard ducks and Japanese quail, respectively.

Effects on aquatic organisms: Mancozeb is moderately - highly toxic to fish and aquatic organisms.

Effects on other organisms: Mancozeb is not toxic to honeybees.

Environmental Fate:

Breakdown in soil and groundwater: Mancozeb is of low soil persistence, with a reported field half-life of 1 to 7 days. Mancozeb rapidly and spontaneously degrades to ETU in the presence of water and oxygen. ETU may persist for longer, on the order of 5 to 10 weeks. Because Mancozeb is practically insoluble in water, it is unlikely to infiltrate groundwater.

Breakdown in water: Mancozeb degrades in water with a half-life of 1 to 2 days in slightly acidic to slightly alkaline conditions.

Breakdown in vegetation: When used as directed, Mancozeb is not poisonous to plants. There is a low potential for the compound to build up in the tissues of aquatic invertebrates or other aquatic organisms if poisoned.

SECTION 13: DISPOSAL CONSIDERATIONS

For collection of unwanted rural chemicals, contact ChemClear @1800 008 182 www.chemclear.com.au and for help with the disposal of empty drums, contact DrumMuster@ www.drummuster.com.au for local and State contacts.

Product Disposal On site disposal of the concentrated product is not acceptable. 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 (ChemCollect).

Container Disposal Do not use this container for any other purpose. Triple rinse containers, add rinsate to the spray tank, then offer the container for recycling/reconditioning, or puncture top, sides and bottom and dispose of in landfill in accordance with local regulations.

drumMUSTER is the national program for the collection and recycling of empty, cleaned, non returnable crop production and on-farm animal health chemical containers.

If the label on your container carries the drumMuster symbol, triple rinse the container, ring your local Council, and offer the container for collection in the program. Returnable containers: empty contents fully into application equipment. Replace cap, close all valves and return to the point of supply for refill or storage. If no landfill is available, bury the containers below 500mm 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.

SECTION 14: TRANSPORT INFORMATION

Note: This product range is classed as a MARINE POLLUTANT only and so the Dangerous Goods classification which follows is for MARINE transport only. Not classed as a Dangerous Good for Storage or Road and Rail transport.

ADG Code: 3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S, contains Mancozeb.

Hazchem Code: 2X

Special Provisions: SP179, SP274

Dangerous Goods Class: Class 9, Miscellaneous Dangerous Goods.


Packaging Group: III

Packaging Method: 3.8.9

Class 9 Miscellaneous Dangerous Goods shall not be loaded in the same vehicle or packed in the same freight container with Classes 1 (Explosives), 5.1 (Oxidising Agents where the Miscellaneous Dangerous Goods are Fire Risk Substances), 5.2 (Organic Peroxides where the Miscellaneous Dangerous Goods are Fire Risk Substances).

They may however be loaded in the same vehicle or packed in the same freight container with Classes 2.1 (Flammable Gases), 2.2 (Non-Flammable, Non-Toxic Gases), 2.3 (Toxic Gases), 3 (Flammable liquids), 4.1 (Flammable Solids), 4.2 (Spontaneously Combustible Substances), 4.3 (Dangerous When Wet Substances), 5.1 (Oxidising Agents except where the Miscellaneous Dangerous Goods are Fire Risk Substances), 5.2 (Organic Peroxides except where the Miscellaneous Dangerous Goods are Fire Risk Substances), 6 (Toxic Substances), 7 (Radioactive Substances), 8 (Corrosive Substances), Foodstuffs and foodstuff empties

Also refer to **EMERGENCY PROCEDURE GUIDE – TRANSPORT EPG / ERG 47** for this product

HAZARD		IDENTIFICATION	
Class Symbol		Trade Name:	Mancozz 750 WG Fungicide
<p>Primary</p>  <p>9 Environmentally HAZARDOUS</p>	Subsidiary	Shipping Name:	Environmentally HAZARDOUS substance, SOLID, N.O.S. (MANCOZEB)
		UN Number:	3077
		HAZCHEM :	2X – contain spillage
		Physical Description:	Yellow to brown granules
		Company: (product registrant)	Hextar Chemicals Pty Ltd 28 Tillotson Terrace, Armadale, VIC 3143 Tel 04 0214 9346

SECTION 15: REGULATORY INFORMATION

SUSDP: Schedule 5; CAUTION KEEP OUT OF REACH OF CHILDREN READ SAFETY DIRECTIONS BEFORE OPENING OR USING

AICS (Australia): All of the components in this product are listed on the Australian Inventory of Chemical Substances.

APVMA Registration Number: 62791

SECTION 16: OTHER INFORMATION

This MSDS contains only safety-related information sourced from the public domain and analytical results on this product:

Acronyms:

ADG Code Australian Code for the Transport of Dangerous Goods by Road and Rail, 7th Edition

AICS Australian Inventory of Chemical Substances

CAS number Chemical Abstracts Service Registry Number

Hazchem Number Emergency action code of numbers and letters that provide information firefighters

IARC International Agency for Research on Cancer

ASCC Office of the Australian Safety and Compensation Council

NTP National Toxicology Program (USA)

R-Phrase Risk Phrase

SUSDP Standard for the Uniform Scheduling of Drugs & Poisons

UN Number United Nations Number

Police and Fire Brigade: Dial 000 **Poisons Information Centre (13 1126)**

Emergency contact: 04 0214 9346 (24 hours)

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