

## SAFETY DATA SHEET

### Section 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

<b>Product Name:</b>	<b>INNOVA<sup>®</sup> MANCOZEB 750 Fungicide</b>
<b>Other Names:</b>	<b>Proper shipping name:</b> Environmentally Hazardous Substance, Solid, N.O.S. (mancozeb)
<b>Recommended Use:</b>	<b>Fungicide for use on field crops, fruit, ornamentals, tobacco, turf and vegetables</b>
<b>Company Details:</b>	<b>Syngenta Crop Protection Pty Limited</b> ABN 33 002 933 717
<b>Address:</b>	<b>Level 1, 2-4 Lyon Park Road</b> <b>NORTH RYDE NSW 2113</b> <b>AUSTRALIA</b>
<b>Telephone Number:</b>	<b>(02) 8876 8444</b>
<b>Emergency Telephone Number:</b>	<b>24 hours - 1800 033 111</b>

### Section 2: HAZARDS IDENTIFICATION

<b>Hazard Classification:</b>	Hazardous according to the criteria of NOHSC Australia
<b>Risk Phrases:</b>	R22 Harmful if swallowed R37 Irritating to respiratory system R42/43 May cause sensitisation by inhalation and skin contact
<b>Safety Phrases:</b>	—

### Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

<b>SUBSTANCE</b>	
<b>Chemical Identity of Pure Substance:</b>	Mancozeb
<b>Synonym:</b>	-
<b>CAS Number:</b>	8018-01-7

<b>MIXTURE</b>		
<b>Chemical Identity of Ingredients</b>	<b>CAS No</b>	<b>Proportion (% w/w)</b>
Mancozeb	8018-01-7	75
Other ingredients determined not to be hazardous	-	to 100

## Section 4: FIRST AID MEASURES

<b>Description of Necessary First Aid Measures:</b>	<p>In case of poisoning by any exposure route contact a doctor or Poisons Information Centre on 131 126.                  Have the product label or SDS with you when calling or going for treatment.</p> <p><b>Ingestion:</b> If swallowed, seek medical advice immediately. DO NOT induce vomiting</p> <p><b>Eye contact:</b> Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required</p> <p><b>Skin contact:</b> Take off all contaminated clothing immediately. Wash off immediately with plenty of water. If skin irritation persists, call a doctor. Wash contaminated clothing before re-use</p> <p><b>Inhalation:</b> Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Keep patient warm and at rest. Call a doctor or Poisons Information Centre immediately</p>
<b>Poisoning Symptoms:</b>	Poisoning symptoms in laboratory animals were non-specific.
<b>Medical Advice:</b>	There is no specific antidote available. Treat symptomatically.

## Section 5: FIRE FIGHTING MEASURES

<b>Suitable Extinguishing Media:</b>	<p><b>Small fires</b>                  Use water spray, alcohol-resistant, dry chemical or carbon dioxide</p> <p><b>Large fires</b>                  Use alcohol-resistant foam or water spray                  DO NOT use a solid water stream as it may scatter and spread fire                  Cool closed containers exposed to fire with water spray</p>
<b>Hazards from Combustion Products:</b>	Combustion products may be toxic and/or irritating. Take appropriate protective measures. In a fire formation of hydrogen sulfide, carbon disulfide, sulfur oxides and carbon oxides can be expected.
<b>Special Protective Precautions and Equipment for Fire Fighters:</b>	In the event of fire, wear self-contained breathing apparatus and protective clothing
<b>Hazchem Code:</b>	2X

## Section 6: ACCIDENTAL RELEASE MEASURES

<b>Emergency Procedures:</b>	In case of spillage it is important to take all steps necessary to <ul style="list-style-type: none"><li>• Avoid eye and skin contact</li><li>• Avoid contamination of waterways</li></ul>
<b>Methods and Materials for Containment and Clean Up:</b>	<b>Procedure for spill</b> <ol style="list-style-type: none"><li>(1) Keep all bystanders away</li><li>(2) Wear goggles, half face-piece respirator with combined dust and vapour cartridge, full length clothing and PVC gloves.</li><li>(3) Re-position any leaking containers so as to minimise further leakage</li><li>(4) <b>For a product spill:</b> Sweep granule concentrate into a pile. <b>For a prepared spray spill:</b> Dam and absorb spill with an absorbent material (eg sand or soil).</li><li>(5) Shovel the absorbed spill into drums</li><li>(6) Disposal of the absorbed material will depend upon the extent of the spill<ul style="list-style-type: none"><li>• For quantities up to 50 kg of product bury in a secure landfill site</li><li>• For quantities greater than 50 kg seek advice from the manufacturer (use emergency contact number below) before attempting disposal. Contain in a secure location until disposal method is established</li></ul></li><li>(7) Decontaminate spill area with detergent and water and rinse with the smallest volume of water practicable.</li></ol>

## Section 7: HANDLING AND STORAGE

<b>Precautions for Safe Handling:</b>	May irritate the eyes and skin. Repeated exposure may cause allergic disorders. Avoid contact with eyes and skin. DO NOT inhale dust. When opening the container and preparing spray, wear: <ul style="list-style-type: none"><li>• cotton overalls, over normal clothing, buttoned to the neck and wrist</li><li>• washable hat</li><li>• elbow length PVC gloves</li><li>• goggles</li><li>• disposable dust mask covering mouth and nose</li></ul> When using the prepared spray wear: <ul style="list-style-type: none"><li>• cotton overalls, over normal clothing, buttoned to the neck and wrist</li><li>• washable hat</li><li>• elbow length PVC gloves</li></ul> Wash hands after use. After each day's
<b>Conditions for Safe Storage:</b>	Store in the closed, original container in a dry, cool, well ventilated area out of direct sunlight.

## Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

**ALWAYS READ AND FOLLOW THE LABEL INSTRUCTIONS AND WARNINGS**

<b>National Exposure Standards:</b>	No exposure standard allocated
<b>Syngenta Exposure Standards:</b>	The manufacturer of mancozeb recommends an exposure limit of 1 mg/kg (TWA)
<b>Biological Limit Values:</b>	No biological limit allocated
<b>Engineering Controls:</b>	No special requirements. Product is used outdoors
<b>Personal Protective Equipment:</b>	<p>May irritate the eyes and skin. Repeated exposure may cause allergic disorders. Avoid contact with eyes and skin. DO NOT inhale dust.</p> <p>When opening the container and preparing spray, wear:</p> <ul style="list-style-type: none"> <li>• cotton overalls, over normal clothing, buttoned to the neck and wrist</li> <li>• washable hat</li> <li>• elbow length PVC gloves</li> <li>• goggles</li> <li>• disposable dust mask covering mouth and nose</li> </ul> <p>When using the prepared spray wear:</p> <ul style="list-style-type: none"> <li>• cotton overalls, over normal clothing, buttoned to the neck and wrist</li> <li>• washable hat</li> <li>• elbow length PVC gloves</li> </ul> <p>Wash hands after use. After each day's use, wash gloves, goggles and contaminated clothing.</p>

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Yellow to brown granules	<b>Boiling Point/Range:</b>	Not applicable
<b>Odour:</b>	Musty	<b>Melting Point:</b>	Decomposes at 199-206°C
<b>pH:</b>	6.5-7.5 (1% solution)	<b>Solubility:</b>	Dispersible in water
<b>Vapour Pressure:</b>	Negligible <1.33 x 10 <sup>-2</sup> mPa	<b>Density:</b>	0.623 mg/mL
<b>Vapour Density:</b>	Not available	<b>Suspensibility</b>	77.68
<b>Viscosity:</b>	Not available		

<b>Flash Point:</b>	Not flammable	<b>Explosive Properties:</b>	Not explosive
<b>Upper and Lower Flammable (Explosive) Limits in Air:</b>	Not available	<b>Oxidising Properties:</b>	Not oxidising
<b>Ignition Temperature:</b>	Not available	<b>Combustibility:</b>	Not available
		<b>Corrosiveness:</b>	Not available

## Section 10: STABILITY AND REACTIVITY

<b>Chemical Stability:</b>	Stable under normal storage conditions
<b>Conditions to Avoid:</b>	Keep away from moisture, heat or flame. Store in the closed, original container in a dry, cool, well ventilated area out of direct sunlight.
<b>Incompatible Materials:</b>	Acids and oxidising agents
<b>Hazardous Decomposition Products:</b>	Combustion or thermal decomposition will evolve toxic and irritant vapours
<b>Hazardous Reactions:</b>	None known Hazardous polymerisation is unlikely to occur

## Section 11: TOXICOLOGICAL INFORMATION

<b>Health Effects from Likely Routes of Exposure:</b>		
<b>Acute:</b>	<b>Oral toxicity:</b>	<b>Low toxicity</b> LD <sub>50</sub> = >2,000 mg/kg (rat)
	<b>Dermal toxicity:</b>	<b>Low toxicity</b> LD <sub>50</sub> = >2,000 mg/kg (rat)
	<b>Inhalation:</b>	<b>Low toxicity</b> LC <sub>50</sub> (4 hour) = >5.16 mg/L rat)
	<b>Skin irritation:</b>	<b>Non irritant</b> (rabbit)
	<b>Eye irritation:</b>	<b>Non irritant</b> (rabbit)
	<b>Sensitisation:</b>	<b>Non sensitising</b> (guinea pig)
<b>Chronic :</b>	Mancozeb has been extensively tested on laboratory mammals and in test-tube systems. At high levels mancozeb affects the thyroid, liver, and nervous system in laboratory animals. The thyroid and liver effects are due to its metabolism in small amounts to ethylenethiourea (ETU), which interferes with thyroid hormone synthesis and induces stress-related liver growth. No evidence of mutagenic effects was obtained. Ethylenethiourea, a trace contaminant and breakdown product of mancozeb, has caused thyroid and pituitary tumours, which occurred at dose levels higher than likely human expose levels for the use of this product. ETU has caused birth defects in laboratory mammals at high dose levels that interfered with normal thyroid function.	

## Section 12: ECOLOGICAL INFORMATION

<b>Ecotoxicity:</b>	<p><b>Highly toxic to algae</b>                  EC<sub>50</sub> (72-120 hours) = 0.06 to 2.24 mg/L Green Algae (<i>Selenastrum</i>, <i>Scenedesmus</i>, <i>Chlorella</i>)</p> <p><b>Toxic to fish</b>                  LC<sub>50</sub> (48 hours) = 1.9 mg/L Rainbow Trout (<i>Oncorhynchus mykiss</i>)</p> <p><b>Toxic to Daphnia</b>                  EC<sub>50</sub> (48 hours) = 1 mg/L Water Flea (<i>Daphnia magna</i>)</p> <p><b>Low toxicity to bees, birds and earthworms</b></p>
<b>Persistence and Degradability:</b>	Mancozeb is not persistent in soil or water. It is rapidly degraded in the environment by hydrolysis, oxidation, photolysis and metabolism.
<b>Mobility</b>	Mancozeb has low mobility in soil due to rapid degradation.
<b>Environmental Fate (Exposure):</b>	Mancozeb is extensively metabolised. Terminal metabolites are natural products.
<b>Bioaccumulative Potential:</b>	Mancozeb does not bioaccumulate.

## Section 13: DISPOSAL CONSIDERATIONS

<b>Disposal Methods and Containers:</b>	Shake bag contents into spray tank until the bag is empty. DO NOT dispose of undiluted chemicals on site. Puncture or shred and bury empty bags 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 bags and product should not be burnt.
<b>Special Precautions for Landfill or Incineration:</b>	Not applicable

### Section 14: TRANSPORT INFORMATION

<b>LAND TRANSPORT</b> ADG			
<b>UN Number:</b>	3077	<b>Packing Group:</b>	III
<b>UN Proper Shipping Name:</b>	Environmentally Hazardous Substance, Solid, N.O.S.	<b>Special Precautions for User:</b>	None allocated
<b>Class:</b>	9	<b>Hazchem Code:</b>	2X
<b>Subsidiary Risk:</b>	None allocated	<b>Marine Pollutant:</b>	Marine pollutant

<b>SEA TRANSPORT</b> IMDG			
<b>UN Number:</b>	3077	<b>Packing Group:</b>	III
<b>UN Proper Shipping Name:</b>	Environmentally Hazardous Substance, Solid, N.O.S.	<b>Special Precautions for User:</b>	None allocated
<b>Class:</b>	9	<b>Hazchem Code:</b>	2X
<b>Subsidiary Risk:</b>	None allocated	<b>Marine Pollutant:</b>	Marine pollutant

<b>AIR TRANSPORT</b> ICAO / IATA			
<b>UN Number:</b>	3077	<b>Packing Group:</b>	III
<b>UN Proper Shipping Name:</b>	Environmentally Hazardous Substance, Solid, N.O.S.	<b>Special Precautions for User:</b>	None allocated
<b>Class:</b>	9	<b>Hazchem Code:</b>	2X
<b>Subsidiary Risk:</b>	None allocated		

### Section 15: REGULATORY INFORMATION

<b>APVMA Product Number:</b>	61356
<b>Poisons Schedule (SUSDP):</b>	S5

## Section 16: OTHER INFORMATION

**Date of preparation or last revision:** October 2006

**Source of Data:** The information provided in this SDS is sourced from Syngenta internal studies which have been conducted according to Regulatory requirements including OECD and CIPAC Guidelines and EC Directives. A comprehensive package of toxicological and environmental data for the active ingredients of this product has been submitted to the government health and environment authorities and has been evaluated by expert toxicologists and environmental scientists.

**Note: This product is a registered agricultural chemical and must, therefore, be used in accordance with the container label directions**

**CONTACT POINT:** Regulatory Affairs Manager, Syngenta Crop Protection Pty Limited  
(02) 8876 8444

**24 HOURS EMERGENCY CONTACT: 1800 033 111**

This Material Safety Data Sheet 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 SDS 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.