

# MATERIAL SAFETY DATA SHEET



Emergency Phone: 1800-033-882  
Dow AgroSciences Australia Ltd.  
Frenchs Forest NSW 2086

## DITHANE\* RAINSHIELD NEO TEC FUNGICIDE

Effective Date: 5-Aug-05  
Product Code: 88964

### 1. PRODUCT AND COMPANY IDENTIFICATION:

**PRODUCT:** Dithane\* Rainshield Neo Tec Fungicide

#### COMPANY IDENTIFICATION:

Dow AgroSciences Australia Ltd.  
ABN 24 003 771 659  
Level 5, 20 Rodborough Road,  
Frenchs Forest NSW 2086

Customer Service Toll Free Number:  
1800 700 096

(Mon-Fri, 8am-5pm EST)  
Emergency Telephone Number:  
1800 033 882

(24 hours) (EMERGENCIES ONLY)  
Transport Emergency Only Dial 000

**SKIN:** Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. Discard items, which cannot be decontaminated, including leather articles such as shoes, belts, and watchbands.

**INGESTION:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not give alcohol. Do not induce vomiting unless told to do so by the poison control center or doctor. Never give anything by mouth to an unconscious person.

**INHALATION:** Move person to fresh air; if effects occur, consult a physician.

**NOTE TO PHYSICIAN:** No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

### 2. HAZARDOUS IDENTIFICATIONS:

#### EMERGENCY OVERVIEW

Classified as hazardous according to the criteria of NOHSC

Potential Health Effects: May cause eye irritation with corneal injury. May cause skin irritation. Toxic to aquatic organisms.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS:

Mancozeb:	CAS # 008018-01-7	75%
Other non-hazardous ingredients:		25%

### 4. FIRST AID:

**Consult the Poisons Information Centre (131126) or a doctor in every case of suspected chemical poisoning. Never give fluids or induce vomiting if a patient is unconscious or convulsing regardless of cause of injury. If breathing difficulties occur seek medical attention immediately.**

**EYES:** Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist.

### 5. FIRE FIGHTING MEASURES:

**FLASH POINT:** Not applicable (granule)

**METHOD USED:** Not applicable

#### FLAMMABLE LIMITS:

LFL: Not determined

UFL: Not determined

**EXTINGUISHING MEDIA:** When product is involved in a fire use carbon dioxide, dry chemical, water spray, or foam. Contain run-off. Use water spray to cool containers exposed to fire.

**FIRE & EXPLOSION HAZARDS:** Particulates can become airborne. Combustion generates toxic fumes including the following: hydrogen sulfide, carbon disulfide, sulfur oxides, and carbon oxides.

**FIRE-FIGHTING EQUIPMENT:** Wear positive pressure self-contained breathing apparatus with full protective clothing. Remain upwind. Avoid breathing smoke.

**HAZCHEM:** 2X

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### 6. ACCIDENTAL RELEASE MEASURES:

**ACTION TO TAKE FOR SPILLS/LEAKS:** Sweep up small spills and place in a suitable container for disposal. Report large spills to Dow AgroSciences at 1800-033-882. Wear protective clothing and self contained breathing apparatus if dust is present. Do not use water to clean up.

### 7. HANDLING AND STORAGE:

#### PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

**HANDLING:** Keep out of reach of children. Harmful if swallowed, inhaled, or absorbed through skin. Causes eye, nose, throat and skin irritation. Avoid contact with eyes, skin and clothing. Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

**STORAGE:** Store in tightly closed original container in a cool, dry well-ventilated area out of direct sunlight when not in use. Do not store with food, feedstuffs, fertilizers and seeds. See product label for further handling/storage precautions relative to the end use of this product. Reduce stacking height where local conditions can affect packaging strength.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

These precautions are suggested for conditions where the potential for exposure exists. Emergency conditions may require additional precautions.

#### EXPOSURE GUIDELINE:

Mancozeb: Dow AgroSciences Industrial Hygiene Guide is 1 mg/M<sup>3</sup>, dermal sensitizer.

**ENGINEERING CONTROLS:** Provide general and/or local exhaust ventilation to control airborne levels below the exposure guideline.

#### RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

**EYE/FACE PROTECTION:** Use chemical goggles.

**SKIN PROTECTION:** Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur.

**RESPIRATORY PROTECTION:** Atmospheric levels should be maintained below the exposure guideline. If respiratory irritation is experienced, use an air-purifying respirator for dust that complies with relevant Australian Standards.

**APPLICATORS AND ALL OTHER HANDLERS:** Refer to the product label for personal protective clothing and equipment.

### 9. PHYSICAL AND CHEMICAL PROPERTIES:

**BOILING POINT:** Not applicable

**MELTING POINT:** 192-204°C

**VAPOR PRESSURE:** Negligible

**VAPOR DENSITY:** Not applicable

**SOLUBILITY IN WATER:** Dispersible

**SPECIFIC GRAVITY:** 0.6 – 0.7 g/cc (bulk density)

**APPEARANCE:** Yellow to brown granules

**ODOR:** Musty

**PERCENT VOLATILITY:** 0%

**pH:** Not applicable

**VISCOSITY:** Not applicable

**EVAPORATION RATE:** Not applicable

### 10. STABILITY AND REACTIVITY:

**STABILITY: (CONDITIONS TO AVOID)** Material is stable under normal storage conditions. Keep away from moisture, heat or flame.

**INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID)** Avoid contact with oxidizing agents and acids.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal decomposition may yield the following: carbon disulfide and hydrogen sulfide, sulfur oxides and carbon oxides.

**HAZARDOUS POLYMERIZATION:** Not known to occur.

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### 11. TOXICOLOGICAL INFORMATION:

**POTENTIAL HEALTH EFFECTS:** This section includes possible adverse effects, which could occur if this material is not handled in the recommended manner.

**EYES:** May cause severe eye irritation with corneal injury.

**SKIN:** Prolonged contact may cause slight skin irritation with local redness. Skin contact may cause an allergic skin reaction in a small proportion of individuals. Prolonged skin contact is unlikely to result in absorption of harmful amounts. Based on information for a similar material, the LD<sub>50</sub> for skin absorption in rabbits is >5000 mg/kg.

**INGESTION:** Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts. Based on information for a similar material, the oral LD<sub>50</sub> for rats is >5000 mg/kg.

**INHALATION:** Dust may cause irritation of the upper respiratory tract (nose and throat) and lungs. For mancozeb, the LC<sub>50</sub> for rats is >5.14 mg/L for 4 hours.

#### **SYSTEMIC (OTHER TARGET ORGAN) EFFECTS:**

Mancozeb, in animals, effects have been reported on the following organs: thyroid, liver, nervous system, and eyes.

**CANCER INFORMATION:** Mancozeb has caused cancer in laboratory animals.

**TERATOLOGY (BIRTH DEFECTS):** Mancozeb has caused birth defects in laboratory animals only at doses toxic to the mother.

**REPRODUCTIVE EFFECTS:** Mancozeb did not interfere with reproduction in laboratory animal studies.

**MUTAGENICITY:** For mancozeb, in-vitro genetic toxicity studies were predominantly negative and animal genetic toxicity studies were negative.

### 12. ECOLOGICAL INFORMATION:

#### **ENVIRONMENTAL FATE:**

#### **MOVEMENT & PARTITIONING:**

No relevant information found.

#### **DEGRADATION & PERSISTENCE:**

Based largely or completely on information for the major component(s).

Chemical degradation: hydrolysis is expected in the environment.

Degradation is expected in the soil environment.

#### **ECOTOXICOLOGY:**

Based largely or completely on information for mancozeb.

Material is very highly toxic to aquatic organisms on an acute basis (LC<sub>50</sub> or EC<sub>50</sub> is <1 mg/L in most sensitive species tested).

Material is practically non-toxic to birds on a dietary basis (LC<sub>50</sub> is >5000 ppm).

Material is practically non-toxic to birds on an acute basis (LD<sub>50</sub> is >2000 mg/kg).

### 13. DISPOSAL CONSIDERATIONS:

**DISPOSAL METHOD:** If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws and regulations.

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### 14. TRANSPORT INFORMATION:

**ROAD AND RAIL TRANSPORT:** Not classified as dangerous goods by the criteria of the Australian Dangerous Goods Code (ADG) for the transport by road and rail.

**AIR TRANSPORT:** Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulation for transport by air.

**MARINE TRANSPORT:** Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG) for transport by sea.

**UN No:** 3077

**Class:** 9, Marine Pollutant (Mancozeb)

**Packing group:** III

**SHIPPING NAME:** ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S. (MANCOZEB)

### 15. REGULATORY INFORMATION:

**APVMA APPROVAL NUMBER:** 55157

**POISON SCHEDULE:** S5

#### RISK PHRASES:

R22: Harmful if swallowed.

R37: Irritating to respiratory system.

R42/43: May cause sensitization by inhalation and skin contact.

#### SAFETY PHRASES:

S2: Keep locked up.

S8: Keep container dry.

S46: If swallowed, seek medical advice immediately and show the container or label.

S22: Do not breathe dust.

S24/25: Avoid contact with skin and eyes.

S37: Wear suitable gloves.

S45: In case of accident or if you feel unwell, seek medical advice (show the label where possible).

### 16. OTHER INFORMATION:

#### Glossary

**BCF: Bioconcentration Factor** - a measure for the characterization of the accumulation of a chemical in an organism. It is defined as the concentration of a chemical in an organism (plants, microorganisms, animals) divided by the concentration in a reference compartment (e.g. food, surrounding water).

**EC<sub>50</sub>:** median effective concentration. Statistically derived concentration of a substance in an environmental medium expected to produce a certain effect in 50% of test organisms in a given population under a defined set of conditions.

**Explosive Limits** - The range of concentrations (% by volume in air) of a flammable gas or vapour that can result in an explosion for ignition in a confined space.

**K<sub>oc</sub>** - the organic carbon partition coefficient (mL soil water /g organic carbon).

**LC<sub>50</sub>** - Lethal Concentration 50%. A concentration of chemical in air or water that will kill 50% of the test organisms.

**LD<sub>50</sub>** - Lethal Dose-50%. The dose of a chemical that will kill 50% of the test animals receiving it.

**pH** - Measure of how acidic or alkaline a material is using a 1 - 14 scale. pH 1 is strongly acidic and pH 14 strongly alkaline.

**Polymerisation** - a chemical reaction in which small molecules (monomers) combine to form much larger molecules (polymers). A hazardous polymerisation reaction is one that occurs at a fast rate and releases large amounts of energy.

**P<sub>ow</sub>** - The octanol-water partition coefficient is the ratio of the concentration of a chemical in octanol and in water at equilibrium and at a specified temperature. Octanol is an organic solvent that is used as a surrogate for natural organic matter. This parameter is used in many environmental studies to help determine the fate of chemicals in the environment.

**TWA** - Time Weighted Average. The average concentration of a chemical in air over the total exposure time - usually an 8 hour work day.

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### **References**

AS/NZS 1715-1994 Selection Use and Maintenance of Respiratory Protective Devices.  
ASNZS 1716 - 1994 Respiratory protective devices.  
Australian Dangerous Goods Code  
International Maritime Dangerous Goods Code.  
International Air Transport Association (IATA) Dangerous Goods Regulation

**FOR FURTHER PRODUCT INFORMATION CALL DOW AGROSCIENCES CUSTOMER SERVICE REPRESENTATIVES TOLL FREE 1800 700 096 DURING BUSINESS HOURS.**

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. THE RESPONSIBILITY FOR PRODUCTS SOLD IS SUBJECT TO OUR STANDARD TERMS AND CONDITIONS, A COPY OF WHICH IS SENT TO OUR CUSTOMERS AND IS ALSO AVAILABLE ON REQUEST.