

Infosafe No™ 3NV2F	Issue Date : August 2018	APPROVED by NUFARMNZ
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 Product Name **MANZATE®EVOLUTION**

1. Identification

GHS Product Identifier	MANZATE®EVOLUTION
Product Code	02980
Product Type	Fungicide
Company Name	Nufarm NZ
Address	6 Manu Street, Otahuhu Auckland 2024 New Zealand
Telephone/Fax Number	Tel: 0-9-270 4150
Emergency phone number	0800 651 911
Email	nzinfo@nufarm.com
Recommended use of the chemical and restrictions on use	A fungicide for the control of certain diseases in fruit, vegetable and ornamental crops.
Other Information	This SDS describes, to the best of our knowledge, the properties of the concentrated product. The physical properties and some of the assessments do not apply to the properties of the product once it has been diluted for application. Acute health effects of the diluted product are likely to be much less severe.

2. Hazard Identification

Other Information	6.3B skin irritant, 6.4A eye irritant, 6.5B sensitiser, 6.9B target organ toxicant, 9.1A aquatic toxicant, TOXICITY Harmful - may cause eye irritation. May cause mild skin irritation. May cause sensitisation from prolonged skin contact. May cause lung and liver damage from repeated oral exposure at high doses. ECOTOXIC Very toxic to aquatic organisms.
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3. Composition/information on ingredients

Chemical Characterization	Solid		
Ingredients	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>
	Mancozeb	8018-01-7	750 g/kg
	Methenamine	100-97-0	0-1 %
	Ingredients determined to be non-hazardous	-	Balance

4. First-aid measures

First Aid Measures	For advice contact the National Poisons Centre 0800 POISON (0800 764 766) or a doctor immediately. Begin artificial respiration if the victim is not breathing. Use mouth-to-nose rather than mouth-to-mouth. Obtain medical attention.
Inhalation	Remove patient to fresh air. Lay down and keep warm and rested. If breathing is shallow or has stopped ensure airway is clear and apply resuscitation. Seek medical assistance immediately.
Ingestion	Never give anything by mouth to an unconscious person. If swallowed do NOT induce vomiting. For advice, contact the National Poisons Centre (0800 764 766). Seek medical assistance immediately.
Skin	Immediately flush body and clothes with large amounts of water. Remove contaminated clothing and footwear. Wash affected areas with non abrasive soap and water. If a large area is affected seek medical assistance.
Eye contact	Flush eyes with plenty of water for 15 minutes holding eyelids open if necessary. Seek medical assistance. Remove contact lenses, if present and easy to do.
First Aid Facilities	Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower.
Advice to Doctor	Treat symptomatically.

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Avoid giving alcohol - May cause vomiting and shock.

5. Fire-fighting measures

Suitable extinguishing media	If involved in a fire, the product will not burn. Choose extinguishing media to suit the burning material. Water fog or spray, carbon dioxide or dry chemical. Do not use a solid water stream as it may scatter and spread fire.
Hazards from Combustion Products	Thermal decomposition can lead to release of irritating gases and vapours. Keep product and the empty container away from heat and sources of ignition.
Special Protective Equipment for fire fighters	Full protective clothing and self-contained breathing apparatus.
Specific Methods	Keep up wind. Do not allow washings to reach sewage or effluent systems. Keep containers cool with water spray. Avoid using large volumes of water which could spread the product.
Hazchem Code	2Z
Other Information	Location Certificate: Not applicable Hazardous Atmosphere Zone: Not applicable Number of Fire Extinguishers: Not applicable

6. Accidental release measures

Spills & Disposal	Wear protective clothing. Clear area of unprotected personnel. Sweep up solids without generating dust (use water to dampen). Contain and absorb liquid spills with inert material and place in waste containers. If spill does enter waterways contact the local authority. Collect in an appropriate sealable container for disposal in an approved landfill.
Personal Protection	For appropriate personal protective equipment (PPE), refer Section 8.
Environmental Precautions	Prevent from entering drains, waterways or sewers.

7. Handling and storage

Precautions for Safe Handling	Avoid skin and eye contact and inhalation of spray mist. APPROVED HANDLER: This product must be under the control of an approved handler during use.
Conditions for safe storage, including any incompatibilities	TRACKING: Is not required RECORD KEEPING: Records of use as described in NZS 8409 Management of Agrichemicals must be kept if 3kg or more is applied within 24 hours. Keep out of reach of children. Store in original container tightly closed and in a locked, dry, cool area away from foodstuffs. Storage must be in accordance with NZS 8409 Management of Agrichemicals. Stores containing 100kg of MANZATE EVOLUTION are subject to signage, and more than 100kg require emergency response plans.
Other Information	Always read the label and any attached leaflet before use. Aggregate Storage Volume Thresholds: When stored with substances of the same hazard classification the aggregate quantity must be considered. For full details refer to the current NZS8409 Management of Agrichemicals and the HSNO Regulations.

8. Exposure controls/personal protection

Occupational exposure limit values	No exposure limits (WES, TEL or EEL's) have been specifically assigned for this product.
Appropriate engineering controls	Handle in well ventilated areas, generally natural ventilation is adequate.
Personal Protective Equipment	When opening the container, preparing spray and using the prepared spray wear safety goggles, impervious gloves, cotton overalls buttoned to the neck and wrist, boots, and a NIOSH approved half face mask with organic vapour cartridge + dust/mist prefilter.
Hygiene Measures	Do not eat, drink or smoke while using. Remove protective clothing and wash hands and face thoroughly before meals and after work. Wash protective clothing daily after work.

9. Physical and chemical properties

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Form	Solid
Appearance	Yellow dry, free flowing water dispersible granules.
Odour	Mild sulfurous odour.
Melting Point	Decomposes before melting (Mancozeb decomposes without melting @ 192-204°C)
Solubility in Water	Disperses in water. Not soluble.
pH	7.0 at 10g/L in water.
Density	Bulk density 0.64g/mL
Other Information	(WG) Water Dispersible Granule

10. Stability and reactivity

Chemical Stability	Stable under normal conditions of handling and storage.
Conditions to Avoid	Protect from water
Incompatible Materials	Strong oxidizing agents, strong acids and strong bases.
Hazardous Decomposition Products	Oxides of carbon, nitrogen, ethylene thiourea and carbon disulphide.
Hazardous Polymerization	Hazardous polymerisation will not occur.

11. Toxicological Information

Acute Toxicity - Oral	LD50 (rat) = >5,000mg/kg for mancozeb
Acute Toxicity - Dermal	LD50 (rabbit) = >5,000mg/kg for mancozeb
Acute Toxicity - Inhalation	LC50 (rat, 4h) = >5.14mg/L for mancozeb
Ingestion	The concentrate is of low toxicity if swallowed.
Inhalation	Inhalation of dust may result in respiratory irritation.
Skin	May irritate the skin. May cause sensitisation by prolonged skin contact.
Eye	Moderate eye irritant.
Skin Sensitisation	No skin allergy was observed in guinea pigs following repeated exposure. Repeated oral exposure produced thyroid effects in dogs, rats and mice with possible neurotoxic effects in rats. Long-term studies in rats and mice produced no increased incidence of tumors. No adverse effects were observed when rats were exposed orally for 2 successive generations. Developmental effects were observed in the offspring of rats exposed orally during pregnancy, but only at amounts which produced significant adverse effects in the mother. No adverse effects were noted in the offspring of rabbits exposed orally during pregnancy.
Chronic Effects	Prolonged exposure to dust or mists containing manganese compounds can cause progressive poisoning. The signs and symptoms are apathy, loss of balance and weakness. More advanced poisoning may show evidence of central nervous system disturbance.
Human Effects	Prolonged and repeated exposure can occasionally cause skin irritation, conjunctivitis and bronchitis. May cause sensitisation by inhalation or skin contact.
Other Information	The Australian Acceptable Daily Intake (ADI) for mancozeb for a human is 0.006 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 0.6 mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species. (Ref: Comm. Dept. of Health and Ageing, Office of Chemical Safety, 'ADI List', December 2014).

12. Ecological information

Persistence and degradability	Mancozeb is rapidly degraded in the environment by hydrolysis, oxidation, photolysis and metabolism. Soil DT50 = <1d (20°C)
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Bioaccumulative Potential	Estimated BCF = 2.1 for mancozeb Mancozeb Kow logP = 0.26
Basis for Assessment	Ecotoxicological data have not been determined specifically for this product. Data below is for the active ingredient unless otherwise stated.
Acute Toxicity - Fish	LC50 (96h) Oncorhynchus mykiss (Rainbow trout) = 0.46mg/L for mancozeb
Acute Toxicity - Daphnia	EC50 (48h, static-renewal) 0.073mg/L for mancozeb
Acute Toxicity - Algae	EC50 (120h, cell density) for Selenastrum capricornutum 0.044mg/L for mancozeb
Acute Toxicity - Other Organisms	LD50 (10d) English sparrows (Passer domesticus) >1,290mg/kg for mancozeb Bees: LD50 (oral) = 209µg/bee, (contact) = >400µg/bee for mancozeb

13. Disposal considerations

Product Disposal	Dispose of product only by using according to the label, or at an approved landfill.
Container Disposal	Ensure container is completely empty. Burn in an appropriate incinerator if circumstances, such as wind direction, permit. Otherwise crush and bury in an appropriate landfill.

14. Transport information

Transport Information	It is good practice not to transport agricultural chemical products with food, food related materials and animal feedstuffs.
U.N. Number	3077
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. - (mancozeb, 75%)
Transport hazard class(es)	9
Hazchem Code	2Z
Packaging Method	-
Packing Group	III
EPG Number	-
IERG Number	47
IMO Marine Pollutant	Yes. Environmentally Hazardous Substance mark required.
Other Information	Do not carry this product on a passenger service vehicle. Segregation: Check the latest Land Transport Rule Dangerous Goods Rule 45001 for additional information. Sea transport may require additional segregation. Refer NZS5433 sea segregation for details.

15. Regulatory information

National and or International Regulatory Information	Registered pursuant to the ACVM Act 1997, No. P7514 See www.foodsafety.govt.nz for registration conditions Approved pursuant to the HSNO Act 1996, Approval Code HSR000808 See www.epa.govt.nz for approval controls.
Packaging & Labelling	ECOTOXIC
Hazard Rating Systems	NFPA/HMIS: 2-1-1

16. Other Information

Contact Person/Point	IN AN EMERGENCY, DIAL 111 - FIRE OR POLICE 24Hr Tollfree Emergency No: 0800 651 911 24Hr Emergency No: National Poisons Centre Phone: 0800 764 766 Not applicable (first issue).
Revisions Highlighted	...End Of MSDS...



Safety Data Sheet

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