

Section 1 - Identification of Chemical Product and Company

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Trade Name: Amgrow Chemspray Mancozeb
Product Use: For control of various fungal diseases in plants
Creation Date: May 2004
Revision Date: April 2008

Section 2 - Hazards Identification

Statement of Hazardous Nature

This product is classified as hazardous according to the criteria of ASCC Australia. (Xi Irritant)
Not a Dangerous Good according to the Australian Dangerous Goods (ADG) Code.

Risk Phrases: R37 Irritating to respiratory system, R43 May cause sensitisation by skin contact

Safety Phrases: S24/25 Avoid contact with skin & eyes, S46 If swallowed seek medical advice immediately & show container or label

SUSDP Classification: S5

ADG Classification: None allocated. Not a Dangerous Good.

UN Number: None allocated

Emergency Overview

Physical Description & colour: Greenish yellow powder

Odour: Mild odour

Major Health Hazards: No significant risk factors have been found for this product.

Potential Health Effects

Inhalation

Data suggests that this product should present no significant problems to typical persons if used as intended.

Skin Contact:

This product is irritating to skin. It is likely to cause discomfort and effects such as moderate to severe itchiness, blistering and skin reddening.

Eye Contact:

This product is irritating to the eyes. It will cause discomfort such as stinging pain, watering and redness of the eyes. Effects may last after exposure has ceased, and in severe exposure, long lasting or even permanent effects such as corneal damage can occur.

Ingestion:

Data suggests that this product should present no significant problems to typical persons if used as intended.

Carcinogen Status:

ASCC: No significant ingredient is classified as carcinogenic by ASCC.

NTP: No significant ingredient is classified as carcinogenic by NTP.

IARC: No significant ingredient is classified as carcinogenic by IARC.

Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc, %	TWA (mg/m ³)	STEL (mg/m ³)
Mancozeb	8018-01-7	80	not set	not set
Other non hazardous ingredients	secret	to 100	not set	not set

This is a commercial product whose exact ratio of components may vary. Trace quantities of impurities are also likely.

The TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that should not be exceeded for more than 15 minutes and should not be repeated for more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak" is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

Section 4 - First Aid Measures

General Information:

You should call The Poisons Information Centre if you feel that 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.

Eyebaths or eyewash stations and safety deluge showers should be provided where this product is being used.

Inhalation: No first aid measures normally required. However, if vapours or mists have been inhaled, and irritation has developed, remove to fresh air and observe until recovered. If irritation becomes painful or persists more than about 30 minutes, seek medical advice.

Skin Contact: If product gets on skin, immediately remove contaminated clothing and wash skin with soap and water for at least 15 minutes. If irritation persists, seek medical attention.

Eye Contact: Flush the contaminated eye(s) with lukewarm, gently flowing water until the product is removed or until irritation has ceased, while holding the eyelid(s) open. Obtain medical advice if irritation becomes painful or lasts more than a few minutes.

Ingestion: If swallowed, do NOT induce vomiting. Give a glass of water.

First aid is not generally required. If in doubt contact a Poisons Information Centre or a doctor.

Advice to Doctor: Treat symptomatically. Note the nature of this product. No specific antidote known

Section 5 - Fire Fighting Measures

Fire and Explosion Hazards: There is no risk of an explosion from this product under normal circumstances if it is involved in a fire. However, this product may form flammable or explosive dust clouds in air.

Fire decomposition products from this product may form toxic and corrosive mixtures in confined spaces. Take appropriate protective measures.

Extinguishing Media: Not Combustible. Use extinguishing media suited to burning materials.

Fire Fighting: If a significant quantity of this product is involved in a fire, call the fire brigade.

Flash point: Does not burn.

Upper Flammability Limit: Does not burn.

Lower Flammability Limit: Does not burn.

Auto ignition temperature: Not applicable - does not burn.

Flammability Class: Does not burn.

Section 6 - Accidental Release Measures

Accidental release: Minor spills do not normally need any special cleanup measures. In the event of a major spill, prevent spillage from entering drains or water courses. As a minimum, wear overalls, goggles and gloves. Suitable materials for protective clothing include rubber, PVC. Eye/face protective equipment should comprise as a minimum, protective glasses and, preferably, goggles. If there is a significant chance that vapours or mists are likely to build up in the cleanup area, we recommend that you use a respirator. Stop leak if safe to do so, and contain spill. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Recycle containers wherever possible after careful cleaning. After spills, wash area, preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. This material may be suitable for approved landfill. Ensure legality of disposal by consulting regulations prior to disposal. Full details regarding disposal of used containers, spillage and unused material may be found on the label. If there is any conflict between this MSDS and the label, instructions on the label prevail. Dispose of only in accord with all regulations. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

Section 7 - Handling and Storage

Handling: Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this MSDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

Storage: Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. Make sure that the product does not come into contact with substances listed under "Materials to avoid" in Section 10. Check packaging - there may be further storage instructions on the label.

Section 8 - Exposure Controls and Personal Protection

The following Australian Standards will provide general advice 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**.

Exposure Limits	TWA (mg/m ³)	STEL (mg/m ³)	ADI (mg/Kg/day)	NOEL (mg/Kg/day)
	not set	not set	0.006	0.6

The STEL (Short Term Exposure Limit) is an exposure value that should not be exceeded for more than 15 minutes and should not be repeated for more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. A TWA has not been established by Worksafe Australia for any of the major ingredients in this product. There is a blanket limit of 10mg/m³ for dusts or mists when limits have not otherwise been established. The nature of this product makes it unlikely that this level will be approached in normal use. ADI means Acceptable Daily Intake and NOEL means No-observable-effect-level. Values taken from Australian ADI List, Dec 2003.

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

Ventilation: No special ventilation requirements are normally necessary for this product. However make sure that the work environment remains clean and that vapours and mists are minimised.

Eye Protection: Protective eyewear should be worn when using this product. Eye contact may prove painful and dangerous and should be avoided.

Skin Protection: Impermeable protective gloves should be worn when you are using this product. Failure to do so will lead to irritation of the skin. Clothing: This product is essentially safe to use without special protective clothing. However, its use is recommended as a good industrial practice. Clean overalls or protective clothing should be worn, preferably with an apron.

Protective Material Types: There is no specific recommendation for any particular protective material type. Consult AS2919 for advice on Industrial Clothing.

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Respirator: It is advisable to wear a dust mask or respirator protection

when using this product.

Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

Section 9 - Physical and Chemical Properties:

Physical Description & colour:	Greenish yellow powder
Odour:	Mild musty odour.
Boiling Point:	Decomposes before boiling at 100kPa.
Melting Point:	192-204 ^o C
Flash Point:	146 ^o C (closed cup)
Volatiles:	Water component.
Vapour Pressure:	n/a
Vapour Density:	No data.
Bulk Density:	0.35 – 0.50
Water Solubility:	Dispersible
pH:	6.0 – 8.0 (10% aqueous solution)
Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	No data.
Coeff Oil/water distribution:	No data
Auto ignition temp:	Not applicable - does not burn.

Section 10 - Stability and Reactivity

Reactivity: This product is unlikely to react or decompose under normal storage conditions. Slowly decomposed by heat and moisture. On hydrolysis (25 °C) DT50 20 d (pH5), 17 h (pH7), 34 h (pH9).

Conditions to Avoid: Heat, flames, ignition sources and incompatibles

Incompatibilities: Moisture, air, oxidizing agents, acids and alkalis.

Fire Decomposition: Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Nitrogen, and under some circumstances, oxides of nitrogen. Oxides of sulfur. Water.

Polymerisation: This product is unlikely to undergo polymerisation processes.

Section 11 - Toxicological Information

LD₅₀ Oral (Rat) = 11,200mg/kg

LD₅₀ Dermal (Rat) = 2800mg/kg

LC₅₀ Inhalation (Rat) = 4.1mg/L/4hr

At very high levels, Mancozeb has caused birth defects in test animals, ethylenethiourea, a trace contaminant and breakdown product of Mancozeb, has caused thyroid effects, tumours and birth defects in laboratory animals.

Section 12 - Ecological Information

Aquatic Toxicity

Very toxic to aquatic life. Avoid contaminating waterways.

Fish - LC50 (48 h) for goldfish 9.0, rainbow trout 2.2, catfish 5.2, carp 4.0 mg/L

Terrestrial Toxicity

Bees: LC50 0.193 mg/bee.

Environmental Fate

Soil - Rapidly degraded in the environment by hydrolysis, oxidation, photolysis, and metabolism. DT50 in soil 6-15 d.

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Section 13 - Disposal Considerations

Disposal: Normally suitable for disposal at approved land waste site. Instructions for the disposal of containers is found on the product label.

Section 14 - Transport Information

ADG Code: This product is not classified as a Dangerous Good. No special transport conditions are necessary unless required by other regulations.

Section 15 - Regulatory Information

AICS: All of the significant ingredients in this formulation are to be found in the public AICS Database. Mancozeb is mentioned in the SUSDP.

Section 16 - Other Information

This MSDS contains only safety-related information. For other data see product literature.

Acronyms:

ADG Code	Australian Code for the Transport of Dangerous Goods by Road and Rail
AICS	Australian Inventory of Chemical Substances
ASCC	National Occupational Health and Safety Commission
CAS number	Chemical Abstracts Service Registry Number
Hazchem Number	Emergency action code of numbers and letters that provide information to emergency services especially fire-fighters
IARC	International Agency for Research on Cancer
NOS	Not otherwise specified
NTP	National Toxicology Program (USA)
R-Phrase	Risk Phrase
SUSDP	Standard for the Uniform Scheduling of Drugs & Poisons
UN Number	United Nations Number

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 MUST REVIEW THIS MSDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE.

IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS. OUR 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.

Please read all labels carefully before using product.

This MSDS is prepared in accord with the ASCC document "National Code of Practice for the Preparation of Material Safety Data Sheets" 2nd Edition [ASCC:2011(2003)]

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