

PRODUCT NAME OSMOSE BORACOL 100 RH FUNGICIDE

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier Name OSMOSE (AUSTRALIA) PTY LTD
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Synonym(s) 100 RH BORACOL • BORACOL 100 RH • OSMOSE BORACOL 100 RH
Use(s) ALGAE CONTROL • FUNGICIDE • INSECTICIDE
MSDS Date 24 September 2007

2. HAZARDS IDENTIFICATION

CLASSIFIED AS HAZARDOUS ACCORDING TO NOHSC CRITERIA

RISK PHRASES

R22 Harmful if swallowed.

SAFETY PHRASES

S2 Keep out of reach of children.

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

UN No.	None Allocated	DG Class	None Allocated	Subsidiary Risk(s)	None Allocated
Pkg Group	None Allocated	Hazchem Code	None Allocated	EPG	None Allocated

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	Formula	CAS No.	Content
ETHYLENE GLYCOL	C2-H6-O2	107-21-1	10-30%
DISODIUM OCTABORATE TETRAHYDRATE	B8-Na2-O13.4H2O	12008-41-2	10-30%
BENZALKONIUM CHLORIDE	Not Available	8001-54-5	1-10%
WATER	H2O	7732-18-5	Not Available

4. FIRST AID MEASURES

Eye Flush gently with running water for 15 minutes.

Inhalation Leave area of exposure. If symptoms develop, seek urgent medical attention. If assisting a person exposed, wear a Type A (Organic vapour) respirator (or Air-line respirator in poorly ventilated areas). If person is not breathing, apply artificial respiration and seek urgent medical attention.

Skin Remove contaminated clothing and gently flush affected areas with water. Seek medical attention if irritation develops. Launder clothing before reuse.

Ingestion For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor.

Advice to Doctor Treat symptomatically

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5. FIRE FIGHTING MEASURES

Flammability	Non flammable. May evolve toxic gases (carbon/ nitrogen oxides, ammonia, chlorides, hydrocarbons) when heated to decomposition. Autoignition temperature: > 400 C.
Fire and Explosion	Non flammable. Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.
Extinguishing	Non flammable. Prevent contamination of drains or waterways, absorb runoff with sand or similar.
Hazchem Code	None Allocated

6. ACCIDENTAL RELEASE MEASURES

Spillage	If spilt (bulk), contact emergency services where appropriate. Wear splash-proof goggles, butyl (first choice) or rubber/neoprene gloves, a Type A (Organic vapour) respirator, coveralls and boots. Ventilate and clear area of all unprotected personnel. Prevent spill entering drains or waterways. Absorb spill with sand or similar, collect and place in sealable containers for disposal.
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7. STORAGE AND HANDLING

Storage	Store tightly sealed in cool, dry, well ventilated area, removed from oxidising agents, acids, alkalis, direct sunlight, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills. Large storage areas should be banded and have appropriate fire protection and ventilation systems. Store between 0 and 30 C.
Handling	Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Standards	Ingredient	Reference	TWA		STEL	
			ppm	mg/m3	ppm	mg/m3
	Ethylene glycol (vapour)	NOHSC (AUS)	20	52	40	104

Biological Limit Values No biological limit allocated.

Engineering Controls Use with adequate natural ventilation. Open windows and doors where possible. In poorly ventilated areas, mechanical extraction ventilation is recommended.

PPE Wear splash-proof goggles and neoprene or butyl or rubber gloves. Where heavy skin contamination is likely, wear coveralls or protective clothing. Where an inhalation risk exists, wear a Type A (Organic vapour) respirator.



9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	CLEAR COLOURLESS LIQUID	Solubility (water)	SOLUBLE
Odour	SWEET ODOUR	Specific Gravity	1.089
pH	NOT AVAILABLE	% Volatiles	NOT AVAILABLE
Vapour Pressure	2.39 kPa @ 20°C	Flammability	NON FLAMMABLE
Vapour Density	NOT AVAILABLE	Flash Point	NOT RELEVANT
Boiling Point	> 100°C	Upper Explosion Limit	NOT AVAILABLE
Melting Point	NOT AVAILABLE	Lower Explosion Limit	NOT RELEVANT
Evaporation Rate	NOT AVAILABLE	Autoignition Temperature	NOT AVAILABLE

10. STABILITY AND REACTIVITY

- Material to Avoid** Incompatible with oxidising agents (eg. hypochlorites, peroxides), acids (eg. sulphuric acid), alkalis (eg. hydroxides), heat and ignition sources.
- Decomposition** May evolve toxic gases (carbon/ nitrogen oxides, ammonia, chlorides, hydrocarbons) when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

- Health Hazard Summary** Moderate toxicity. Product has the potential to cause acute and chronic health effects with over exposure. Avoid direct eye or skin contact and vapour or mist inhalation. The low vapour pressure reduces the inhalation hazard. Chronic over exposure to ethylene glycol may result in kidney and/or central nervous system damage. Potential sensitising agent.
- Eye** Irritant. Exposure may result in lacrimation, irritation, pain, redness, conjunctivitis and possible corneal burns with prolonged contact.
- Inhalation** Low irritant. Over exposure to vapours/mists may result in respiratory irritation, nausea, and headache. Occupational exposure to quaternary ammonium compounds has been reported to cause asthma, although rare. Due to the low vapour pressure, an inhalation hazard is not anticipated, unless sprayed.
- Skin** Irritant. Prolonged contact may result in irritation, redness, rash, dermatitis and sensitisation. Toxic effects may result from skin absorption.
- Ingestion** Moderate toxicity. Ingestion may result in CNS depression with symptoms resembling drunkenness, gastrointestinal effects, nausea, vomiting. Chronic exposure or large doses may result in circulatory and respiratory collapse, liver and kidney damage, unconsciousness and convulsions.
- Toxicity Data** ETHYLENE GLYCOL (107-21-1)
LC50 (Inhalation): 10 876 mg/kg (rat)
LD50 (Ingestion): 1650 mg/kg (cat)
LD50 (Skin): 9530 ug/kg (rabbit)
DISODIUM OCTABORATE TETRAHYDRATE (12008-41-2)
LD50 (Ingestion): 2 g/kg (rat)
BENZALKONIUM CHLORIDE (8001-54-5)
LD50 (Ingestion): 240 mg/kg (rat)

12. ECOLOGICAL INFORMATION

- Environment** Limited ecotoxicity data was available for this product at the time this report was prepared. Ensure appropriate measures are taken to prevent this product from entering the environment.

13. DISPOSAL CONSIDERATIONS

- Waste Disposal** For small amounts, absorb with sand, vermiculite or similar and dispose of to an approved landfill site. For larger amounts, contact the manufacturer for additional information. Prevent contamination of drains or waterways as aquatic life may be threatened and environmental damage may result.
- Legislation** Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

- | | | | | | |
|----------------------|----------------|---------------------|----------------|---------------------------|----------------|
| Shipping Name | None Allocated | | | | |
| UN No. | None Allocated | DG Class | None Allocated | Subsidiary Risk(s) | None Allocated |
| Pkg Group | None Allocated | Hazchem Code | None Allocated | EPG | None Allocated |

15. REGULATORY INFORMATION

- Poison Schedule** Classified as a Schedule 5 (S5) Poison using the criteria in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).
- AICS** All chemicals listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

- Additional** RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid

PRODUCT NAME **OSMOSE BORACOL 100 RH FUNGICIDE**

Information

exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

ABBREVIATIONS:

ADB - Air-Dry Basis.

CAS# - Chemical Abstract Service number - used to uniquely identify chemical compounds.

CNS - Central Nervous System.

IARC - International Agency for Research on Cancer.

M - moles per litre, a unit of concentration.

mg/m³ - Milligrams per cubic metre.

NOS - Not Otherwise Specified.

pH - relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).

ppm - Parts Per Million.

TWA/ES - Time Weighted Average or Exposure Standard.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this Chem Alert report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a Chem Alert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

Report Status

This document has been compiled by RMT on behalf of the manufacturer of the product and serves as the manufacturer's Material Safety Data Sheet ('MSDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer.

While RMT has taken all due care to include accurate and up-to-date information in this MSDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this MSDS.

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MSDS Date: 24 September 2007

End of Report