

Product Name **OSMOSE BORACOL 400 RH FUNGICIDE**

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier Name **OSMOSE (AUSTRALIA) PTY LTD**
Address Cafpirco Road, Mount Gambier, SA, AUSTRALIA, 5290
Telephone (08) 8723 1399
Fax (08) 8732 0010
Emergency 1800 088 809
Email customerservices@osmose.com.au
Web Site http://www.osmose.com.au/
Synonym(s) 400 RH BORACOL • BORACOL 400 RH • OSMOSE BORACOL 400 RH
Use(s) ALGAE CONTROL • FUNGICIDE • INSECTICIDE
MSDS Date 05 Feb 2009

2. HAZARDS IDENTIFICATION

CLASSIFIED AS HAZARDOUS ACCORDING TO ASCC CRITERIA

RISK PHRASES

R22 Harmful if swallowed.

SAFETY PHRASES

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S28 After contact with skin, wash immediately with plenty of water.

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
Packing 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	30-60%
DISODIUM OCTABORATE TETRAHYDRATE	B8-Na2-O13.4H2O	12008-41-2	30-60%
WATER	H2O	7732-18-5	<40%
BENZALKONIUM CHLORIDE	Not Available	8001-54-5	1-10%

4. FIRST AID MEASURES

Eye If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.

Inhalation If inhaled, remove from contaminated area. To protect rescuer, use a Type A (Organic vapour) respirator or Air-line respirator (in poorly ventilated areas). Apply artificial respiration if not breathing.

Skin If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre or a doctor.

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

Advice to Doctor Treat symptomatically

5. FIRE FIGHTING MEASURES

Flammability	Combustible - potentially explosive vapour. May evolve toxic gases (carbon/ nitrogen oxides, ammonia, chlorides, hydrocarbons) when heated to decomposition. Autoignition temperature: > 400°C.
Fire and Explosion	Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. 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	Dry agent, carbon dioxide or water fog. Prevent contamination of drains or waterways.
Hazchem Code	None Allocated

6. ACCIDENTAL RELEASE MEASURES

Spillage	Contact emergency services where appropriate. Use personal protective equipment. Clear area of all unprotected personnel. Ventilate area where possible. Contain spillage, then cover / absorb spill with non-combustible absorbant material (vermiculite, sand, or similar), collect and place in suitable containers for disposal. Prevent spill entering drains or waterways.
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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 Stds	Ingredient	Reference	TWA		STEL	
			ppm	mg/m3	ppm	mg/m3
	Ethylene glycol (vapour)	ASCC (AUS)	20	52	40	104

Biological Limits No biological limit allocated.

Engineering Controls Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, 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	1.322
pH	5.5	% Volatiles	NOT AVAILABLE
Vapour Pressure	NOT AVAILABLE	Flammability	COMBUSTIBLE
Vapour Density	NOT AVAILABLE	Flash Point	NOT AVAILABLE
Boiling Point	> 197°C	Upper Explosion Limit	NOT AVAILABLE
Melting Point	NOT AVAILABLE	Lower Explosion Limit	NOT AVAILABLE
Evaporation Rate	NOT AVAILABLE		

10. STABILITY AND REACTIVITY

Material to Avoid	Incompatible with oxidising agents (eg. hypochlorites), acids (eg. nitric acid), alkalis (eg. hydroxides), heat and ignition sources.
Hazardous Decomposition Products	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. Contact may result in irritation, lacrimation, pain, redness, conjunctivitis. May result in burns with prolonged contact.
Inhalation	Low irritant. Over exposure to vapours may result in irritation of the nose and throat, coughing, 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 with normal use.
Skin	Irritant. Contact may result in irritation, redness, rash and dermatitis. May be absorbed through skin with toxic effects. May cause sensitisation by skin contact.
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) LDLo (Ingestion): 398 mg/kg (human) TCLo (Inhalation): 10,000 mg/m ³ (human - cough) TDLo (Ingestion): 5500 mg/kg (child - anaesthesia) DISODIUM OCTABORATE TETRAHYDRATE (12008-41-2) LD50 (Ingestion): 2 g/kg (rat) BENZALKONIUM CHLORIDE (8001-54-5) LD50 (Ingestion): 240 mg/kg (rat) LD50 (Intraperitoneal): 14.5 mg/kg (rat) LD50 (Intravenous): 13.9 mg/kg (rat) LD50 (Subcutaneous): 64 mg/kg (mouse) TDLo (Ingestion): 266 mg/kg (woman; oesophogas changes, diarrhoea)

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.
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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
Packing 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).
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AICS All chemicals listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

Additional Information RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid 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.
- BEI - Biological Exposure Indice(s)
- CAS# - Chemical Abstract Service number - used to uniquely identify chemical compounds.
- CNS - Central Nervous System.
- EINECS - European INventory of Existing Commercial chemical Substances.
- 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.
- NTP - National Toxicology Program.
- OSHA - Occupational Safety and Health Administration.
- pH - relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
- ppm - Parts Per Million.
- RTECS - Registry of Toxic Effects of Chemical Substances.
- TWA/ES - Time Weighted Average or Exposure Standard.

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.

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.

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.

Prepared By Risk Management Technologies
5 Ventnor Ave, West Perth
Western Australia 6005
Phone: +61 8 9322 1711
Fax: +61 8 9322 1794
Email: info@rmt.com.au
Web: www.rmt.com.au

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End of Report