



SAFETY DATA SHEET

Product Name **BORACOL 200 RH FUNGICIDE**

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier name KOPPERS PERFORMANCE CHEMICALS AUSTRALIA PTY LTD
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Emergency 1800 088 809
Email kpc.admin@koppers.com.au
Web site www.kopperspc.com.au
Synonym(s) 200 RH BORACOL • BORACOL 200 RH
Use(s) ALGAE CONTROL • FUNGICIDE • INSECTICIDE • PRESERVATIVE
SDS date 12 December 2014

2. HAZARDS IDENTIFICATION

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA 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 Number	None Allocated	Transport Hazard Class	None Allocated
Packing Group	None Allocated	Hazchem Code	None Allocated

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredient	CAS Number	EC Number	Content
ETHYLENE GLYCOL	107-21-1	203-473-3	>60%
DISODIUM OCTABORATE TETRAHYDRATE	12008-41-2	234-541-0	10 to 30%
WATER	7732-18-5	231-791-2	<30%
BENZALKONIUM CHLORIDE	8001-54-5	616-786-9	1 to 10%

4. FIRST AID MEASURES

Eye If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, 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 an 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 a Poisons Information Centre or a doctor.

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

Advice to doctor Treat symptomatically.

5. FIRE FIGHTING MEASURES

Flammability	Combustible. May evolve carbon oxides and hydrocarbons when heated to decomposition. Vapour may form explosive mixtures with air.
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 foam. Prevent contamination of drains and waterways.
Hazchem code	None Allocated

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Ventilate area where possible. Contact emergency services where appropriate.
Environmental precautions	Prevent product from entering drains and waterways.
Methods of cleaning up	Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal.
References	See Sections 8 and 13 for exposure controls and disposal.

7. STORAGE AND HANDLING

Storage	Store in a cool, dry, well ventilated area, removed from incompatible substances, 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.
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/m ³	ppm	mg/m ³
Ethylene glycol (particulate)	SWA (AUS)	--	10	--	--
Ethylene glycol (vapour)	SWA (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	
Eye / Face	Wear splash-proof goggles.
Hands	Wear rubber or butyl or neoprene gloves.
Body	Wear coveralls.
Respiratory	Where an inhalation risk exists, wear a Type A (Organic vapour) respirator. If spraying, wear a Type A-Class P1 (Organic gases/vapours and Particulate) respirator.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Product Name **BORACOL 200 RH FUNGICIDE**

Appearance	CLEAR COLOURLESS LIQUID
Odour	SLIGHT ODOUR
Flammability	CLASS C1 COMBUSTIBLE
Flash point	> 110°C
Boiling point	> 197°C
Melting point	NOT AVAILABLE
Evaporation rate	NOT AVAILABLE
pH	6.3
Vapour density	NOT AVAILABLE
Specific gravity	1.232
Solubility (water)	SOLUBLE
Vapour pressure	NOT AVAILABLE
Upper explosion limit	NOT AVAILABLE
Lower explosion limit	3.2 %
Partition coefficient	NOT AVAILABLE
Autoignition temperature	> 400°C
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE
% Volatiles	NOT AVAILABLE

10. STABILITY AND REACTIVITY

Chemical stability	Stable under recommended conditions of storage.
Conditions to avoid	Avoid shock, friction, heavy impact, heat, sparks, open flames and other ignition sources.
Material to avoid	Incompatible with oxidising agents (e.g. hypochlorites), acids (e.g. nitric acid), alkalis (e.g. sodium hydroxide) and phosphorus pentasulphide. Further incompatibilities include; dimethyl terephthalate and titanium butoxide, perchloric acid (violently), mixtures with ammonium dichromate, sodium chlorite, silver chlorate and uranyl nitrate ignite when heated to 100°C. Aqueous solutions may ignite silvered copper wires which have an applied D.C. voltage.
Hazardous Decomposition Products	May evolve carbon oxides and hydrocarbons when heated to decomposition.
Hazardous Reactions	Polymerization is not expected to occur.

11. TOXICOLOGICAL INFORMATION

Health Hazard Summary	Harmful - irritant. This product has the potential to cause adverse health effects with over exposure. Use safe work practices to avoid eye or skin contact and inhalation. At room temperature ethylene glycol has a low vapour pressure and therefore an inhalation hazard is not anticipated unless heated or sprayed. Chronic exposure may result in kidney and central nervous system (CNS) damage.																
Eye	Irritant. Contact may result in irritation, lacrimation, pain and redness.																
Inhalation	Harmful. Over exposure may result in mild respiratory irritation. High level exposure may result in headache, nausea, dizziness and central nervous system (CNS) depression. Due to the low vapour pressure, an inhalation hazard is not anticipated with normal use.																
Skin	Irritant. Contact may result in drying and defatting of the skin, rash and dermatitis.																
Ingestion	Harmful. Ingestion may result in nausea, vomiting, abdominal pain, diarrhoea, drowsiness and unconsciousness. Chronic exposure may result in kidney damage. Aspiration or inhalation may cause chemical pneumonitis and pulmonary oedema.																
Toxicity data	<p>ETHYLENE GLYCOL (107-21-1)</p> <table><tr><td>LC50 (inhalation)</td><td>10,876 mg/kg (rat)</td></tr><tr><td>LD50 (ingestion)</td><td>1670 mg/kg (cat)</td></tr><tr><td>LD50 (skin)</td><td>9,530 ug/kg (rabbit)</td></tr><tr><td>LDLo (ingestion)</td><td>398 mg/kg (human)</td></tr><tr><td>TCLo (inhalation)</td><td>10,000 mg/m³ (human - cough)</td></tr><tr><td>TDL0 (ingestion)</td><td>5,500 mg/kg (child - anaesthesia)</td></tr></table> <p>DISODIUM OCTABORATE TETRAHYDRATE (12008-41-2)</p> <table><tr><td>LD50 (ingestion)</td><td>2 g/kg (rat)</td></tr></table> <p>BENZALKONIUM CHLORIDE (8001-54-5)</p> <table><tr><td>LD50 (ingestion)</td><td>240 mg/kg (rat)</td></tr></table>	LC50 (inhalation)	10,876 mg/kg (rat)	LD50 (ingestion)	1670 mg/kg (cat)	LD50 (skin)	9,530 ug/kg (rabbit)	LDLo (ingestion)	398 mg/kg (human)	TCLo (inhalation)	10,000 mg/m ³ (human - cough)	TDL0 (ingestion)	5,500 mg/kg (child - anaesthesia)	LD50 (ingestion)	2 g/kg (rat)	LD50 (ingestion)	240 mg/kg (rat)
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BENZALKONIUM CHLORIDE (8001-54-5)	
LD50 (intraperitoneal)	14.5 mg/kg (rat)
LD50 (intravenous)	13.9 mg/kg (rat)
LD50 (subcutaneous)	64 mg/kg (mouse)
TDL _o (ingestion)	266 mg/kg (woman; oesophogas changes, diarrhoea)

12. ECOLOGICAL INFORMATION

Toxicity	Ethylene glycol has moderate toxicity to aquatic life on both a short term and long-term basis.
Persistence and degradability	In water and soil ethylene glycol is expected to degrade in several days to a week. The major degradation product is hydroxyacetaldehyde.
Bioaccumulative potential	Ethylene glycol is not expected to bioaccumulate.
Mobility in soil	Expected to be very highly mobile in soil. Not anticipated to volatilise from moist soil or water surfaces.
Other adverse effects	No information provided.

13. DISPOSAL CONSIDERATIONS

Waste disposal	Dispose of by controlled incineration, by licensed or competent personnel. Contact the manufacturer/supplier for additional information (if required). Prevent contamination of drains and 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, IMDG OR IATA

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
UN Number	None Allocated	None Allocated	None Allocated
Proper Shipping Name	None Allocated	None Allocated	None Allocated
Transport Hazard Class	None Allocated	None Allocated	None Allocated
Packing Group	None Allocated	None Allocated	None Allocated

Environmental hazards No information provided

Special precautions for user

Hazchem code None Allocated

15. REGULATORY INFORMATION

Poison schedule	Classified as a Schedule 5 (S5) Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).
Inventory Listing(s)	AUSTRALIA: AICS (Australian Inventory of Chemical Substances) All components are listed on AICS, or are exempt.

16. OTHER INFORMATION

Additional information	ETHYLENE GLYCOL: Has been reported to cause teratogenic and mutagenic effects, however the doses recorded for these effects are extremely high. For example experimental rat studies by the oral route have shown that ingestion of 8.5 g/kg by pregnant rats in their 6-15 day of gestation caused teratogenic effects. This equates to the ingestion of 500 ml of ethylene glycol by a 60 kg women for similar effects to occur. Exposure at such levels is not reported in industry.
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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.

STORAGE OF COMBUSTIBLE LIQUIDS. Combustible liquids with a flash point between 61°C and 150°C are required to be stored as for flammable liquids (Dangerous Goods Class 3) under AS 1940. [Refer to Australian Standard 1940, Storage and Handling of Flammable and Combustible Liquids, for full storage guidelines].

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this 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 ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
GHS	Globally Harmonized System
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m ³	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

Revision history

Revision	Description
2.1	Standard SDS Review
2.0	Standard SDS Review
1.1	Standard SDS Review.
1.0	Initial SDS creation

Report status

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier 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, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, 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 SDS.

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End of SDS