



## SAFETY DATA SHEET

Product Name **BORACOL 200 RH FUNGICIDE**

### 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Supplier name** KOPPERS PERFORMANCE CHEMICALS AUSTRALIA PTY LTD  
**Address** Cafpirco Road, Mount Gambier, SA, 5290, AUSTRALIA  
**Telephone** (08) 8723 1399  
**Fax** (08) 8723 0010  
**Emergency** 1800 088 809  
**Email** [kpc.admin@koppers.com.au](mailto:kpc.admin@koppers.com.au)  
**Web site** [www.kopperspc.com.au](http://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**

<b>UN Number</b>	None Allocated	<b>Transport Hazard Class</b>	None Allocated
<b>Packing Group</b>	None Allocated	<b>Hazchem Code</b>	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**

<b>Flammability</b>	Combustible. May evolve carbon oxides and hydrocarbons when heated to decomposition. Vapour may form explosive mixtures with air.
<b>Fire and explosion</b>	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.
<b>Extinguishing</b>	Dry agent, carbon dioxide or foam. Prevent contamination of drains and waterways.
<b>Hazchem code</b>	None Allocated

**6. ACCIDENTAL RELEASE MEASURES**

<b>Personal precautions</b>	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.
<b>Environmental precautions</b>	Prevent product from entering drains and waterways.
<b>Methods of cleaning up</b>	Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal.
<b>References</b>	See Sections 8 and 13 for exposure controls and disposal.

**7. STORAGE AND HANDLING**

<b>Storage</b>	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.
<b>Handling</b>	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 <sup>3</sup>	ppm	mg/m <sup>3</sup>
Ethylene glycol (particulate)	SWA (AUS)	--	10	--	--
Ethylene glycol (vapour)	SWA (AUS)	20	52	40	104

<b>Biological limits</b>	No biological limit allocated.
<b>Engineering controls</b>	Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended.
<b>PPE</b>	
<b>Eye / Face</b>	Wear splash-proof goggles.
<b>Hands</b>	Wear rubber or butyl or neoprene gloves.
<b>Body</b>	Wear coveralls.
<b>Respiratory</b>	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**

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

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**10. STABILITY AND REACTIVITY**

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<b>Chemical stability</b>	Stable under recommended conditions of storage.
<b>Conditions to avoid</b>	Avoid shock, friction, heavy impact, heat, sparks, open flames and other ignition sources.
<b>Material to avoid</b>	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.
<b>Hazardous Decomposition Products</b>	May evolve carbon oxides and hydrocarbons when heated to decomposition.
<b>Hazardous Reactions</b>	Polymerization is not expected to occur.

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**11. TOXICOLOGICAL INFORMATION**

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<b>Health Hazard Summary</b>	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.
<b>Eye</b>	Irritant. Contact may result in irritation, lacrimation, pain and redness.
<b>Inhalation</b>	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.
<b>Skin</b>	Irritant. Contact may result in drying and defatting of the skin, rash and dermatitis.
<b>Ingestion</b>	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.
<b>Toxicity data</b>	<b>ETHYLENE GLYCOL (107-21-1)</b> 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 <sup>3</sup> (human - cough) TDLo (ingestion)      5,500 mg/kg (child - anaesthesia)  <b>DISODIUM OCTABORATE TETRAHYDRATE (12008-41-2)</b> LD50 (ingestion)      2 g/kg (rat)  <b>BENZALKONIUM CHLORIDE (8001-54-5)</b> LD50 (ingestion)      240 mg/kg (rat)

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 <sub>o</sub> (ingestion)	266 mg/kg (woman; oesophogas changes, diarrhoea)

## 12. ECOLOGICAL INFORMATION

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

## 13. DISPOSAL CONSIDERATIONS

<b>Waste disposal</b>	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.
<b>Legislation</b>	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)
<b>UN Number</b>	None Allocated	None Allocated	None Allocated
<b>Proper Shipping Name</b>	None Allocated	None Allocated	None Allocated
<b>Transport Hazard Class</b>	None Allocated	None Allocated	None Allocated
<b>Packing Group</b>	None Allocated	None Allocated	None Allocated

**Environmental hazards** No information provided

**Special precautions for user**

**Hazchem code** None Allocated

## 15. REGULATORY INFORMATION

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

## 16. OTHER INFORMATION

<b>Additional information</b>	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 <sup>3</sup>	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.

**Product Name**      **BORACOL 200 RH FUNGICIDE**

**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.

**Revision:** 2.1  
**SDS Date:** 12 December 2014

**End of SDS**