

# MATERIAL SAFETY DATA SHEET



Date of Issue: August 25<sup>th</sup> 2010

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Product name** Baycor® 300 Fungicide Spray  
**Other names** None  
**Product code and pack size** 4954032 (1 L)  
**Chemical group** Triazole  
**Recommended use** Agricultural fungicide  
**Formulation** Emulsifiable concentrate  
**Supplier** Bayer CropScience Pty Ltd ABN 87 000 226 022  
**Address** 391 - 393 Tooronga Road, East Hawthorn  
Victoria 3123, Australia  
**Telephone** (03) 9248 6888  
**Facsimile** (03) 9248 6800  
**Website** [www.bayercropscience.com.au](http://www.bayercropscience.com.au)  
**Contact** Development Manager (03) 9248 6888  
**Emergency telephone number** 1800 033 111 – Orica SH&E Shared Services

## 2. HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW**  
**HAZARDOUS SUBSTANCE (see Risk phrases below) – DANGEROUS GOOD**  
**Toxic to aquatic organisms**

**Hazard classification** Hazardous (National Occupational Health and Safety Commission - NOHSC)  
**Risk phrases** R23 – Toxic by inhalation.  
R38 – Irritating to skin.  
R41 – Risk of serious damage to eyes.  
**Safety phrases** See Sections 4, 5, 6, 7, 8, 10, 12, 13  
**ADG classification** See Section 14.  
**SUSDP classification** Schedule 6 (Standard for the Uniform Scheduling of Drugs and Poisons)

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients	CAS Number	Concentration (g/L)
Bitertanol	[55179-31-2]	300
N-methyl-2-pyrrolidone	[872-50-4]	539
Other ingredients (non-hazardous)	---	241

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## 4. FIRST AID MEASURES

**If poisoning occurs, immediately contact a doctor or Poisons Information Centre (telephone 13 11 26), and follow the advice given. Show this Material Safety Data Sheet to the doctor.**

<b>Inhalation</b>	If inhaled, remove to fresh air and keep warm and at rest. Seek urgent medical attention as above.
<b>Skin contact</b>	Carefully remove contaminated clothing. Wash affected areas with soap and water. Seek medical advice if at all worried.
<b>Eye contact</b>	Rinse eyes immediately with clean water for at least 15 minutes, holding eyes open. Obtain <b>urgent</b> medical attention, preferably from an eye specialist.
<b>Ingestion</b>	Obtain immediate medical advice as above. If swallowed, do NOT induce vomiting. Rinse mouth and give a glass of water.
<b>First aid facilities</b>	Provide eyewash and safety shower in the workplace.
<b>Medical attention</b>	Bitertanol is a fungicide of low toxicity. There are no specific symptoms of overexposure to bitertanol. The emulsifier is toxic by inhalation. Ingestion of N-methyl-2-pyrrolidone causes gastric disturbances such as nausea and vomiting. Therapeutic measures: Basic aid, decontamination, symptomatic treatment. There is no known antidote.

## 5. FIRE FIGHTING MEASURES

<b>Extinguishing media</b>	Water spray, carbon dioxide, foam, dry powder, sand
<b>Hazards from combustion products</b>	In a fire, formation of hydrogen cyanide, carbon monoxide and nitrogen oxides can be expected.
<b>Precautions for fire fighters</b>	Combustible liquid. N-methyl-2-pyrrolidone vapours are heavier than air. Fire fighters should wear full protective gear, including self-contained breathing apparatus (AS/NZS 1715/1716). Keep unnecessary people away. If it can be done safely, remove intact containers from the fire. Otherwise, use water spray to cool them. Bund area with sand or earth to prevent contamination of drains or waterways. Dispose of fire control water or other extinguishing agent and spillage safely later. Do not release contaminated water into the environment.
<b>Hazchem code</b>	-3Z

## 6. ACCIDENTAL RELEASE MEASURES

Avoid contact with the spilled material or contaminated surfaces. Extinguish or remove any ignition sources. When dealing with spills do not eat, drink or smoke and wear protective clothing and equipment as described in Section 8 - PERSONAL PROTECTION. Prevent spilled material from entering drains or watercourses. Contain spill and absorb with earth, sand, clay, or other absorbent material. Collect and store in properly labelled, sealed drums for safe disposal. Clean floor and all contaminated objects with damp cloth. Place used cleaning materials into the drum for disposal. Deal with all spillages immediately. If contamination of drains, streams, watercourses, etc. is unavoidable, warn the local water authority.

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## 7. HANDLING AND STORAGE

<b>Handling</b>	Keep out of reach of children. Toxic if inhaled. Will damage eyes. Will irritate the nose, throat and skin. Avoid contact with eyes and skin. Do NOT inhale vapour or spray mist. When using the product wear cotton overalls buttoned to the neck and wrist, washable hat, elbow-length butyl rubber gloves, face shield and goggles. If product in eyes, wash it out immediately with water. If product on skin, immediately wash area with soap and water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, face shield or goggles and contaminated clothing.
<b>Storage</b>	Store in the closed, original container in a well-ventilated area, as cool as possible. Do not store for prolonged periods in direct sunlight.
<b>Flammability</b>	Combustible liquid Class C1 – flash point between 61 and 150° C

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>Exposure standards</b>	The NOHSC exposure standards for <i>N</i> -methyl-2-pyrrolidone are: TWA 25 ppm(103 mg/m <sup>3</sup> ); STEL 75 ppm (309 mg/m <sup>3</sup> ); Skin notation <u>Definitions:</u> <i>Exposure standard – time weighted average (TWA)</i> – the average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day working week. <i>Exposure standard – Short Term Exposure limit (STEL)</i> means a 15 minute TWA exposure which should not be exceeded at any time during a working day even if the eight-hour TWA average is within the TWA exposure standard. Exposures at the STEL should not be longer than 15 minutes and should not be repeated more than four times per day. There should be at least 60 minutes between successive exposures at the STEL. <i>Skin notation</i> – Absorption through the skin may be a significant source of exposure.
<b>Engineering controls</b>	Control process conditions to avoid contact. Use in a well-ventilated area only.
<b>Personal protective equipment</b>	<ul style="list-style-type: none"><li>▪ Wear face shield or safety goggles.</li><li>▪ Wear cotton overalls buttoned to the neck and wrist and a washable hat.</li><li>▪ Wear elbow-length butyl rubber gloves.</li><li>▪ Wear an AS/NZS 1715/1716 approved respirator suitable for organic vapour/mist if exposure to vapours or mists is possible.</li></ul>

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Clear brown clear liquid
<b>Odour:</b>	Aromatic – chemical
<b>pH:</b>	3.0 to 8.0 (1% in water)
<b>Vapour pressure:</b>	5 hPa at 20° C
<b>Vapour density:</b>	3.4 ( <i>N</i> -methyl-2-pyrrolidone)
<b>Boiling point:</b>	150 °C
<b>Freezing/melting point:</b>	Not available
<b>Solubility:</b>	Emulsifies in water
<b>Specific gravity:</b>	1.08 at 20° C
<b>Flash point:</b>	> 92° C
<b>Flammability</b>	

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**(explosive) limits:** Lower: 1.3 vol. %; upper 9.5 vol. % (N-methyl-2-pyrrolidone)  
**Auto-ignition temperature:** 290 °C  
**Partition coefficient (octanol/water):** *Bitertanol*: Log P<sub>ow</sub> = 4.1 (20 °C)  
*N-methyl-2-pyrrolidone*: Log P<sub>ow</sub> = - 0.46

## 10. STABILITY AND REACTIVITY

**Chemical stability** Stable under normal conditions of use.

**Conditions to avoid** Avoid sources of ignition and excessive heat.

**Incompatible materials** Incompatible with oxidising and reducing agents, acids and bases.

**Hazardous decomposition products** Formation of hydrogen cyanide, carbon monoxide and nitrogen oxides may be generated under extreme heat conditions or in a fire.

**Hazardous reactions** May produce an exothermic reaction with strong acids or alkalis.

## 11. TOXICOLOGICAL INFORMATION

### POTENTIAL HEALTH EFFECTS

**Inhalation** Toxic if inhaled. Will irritate mucous membranes.

**Skin contact** Will irritate skin.

**Eye contact** Will damage eyes.

**Ingestion** Harmful if swallowed.

### ANIMAL TOXICITY DATA – PRODUCT

**Acute:**

**Oral toxicity** LD<sub>50</sub> rat: > 5000 mg/kg

**Dermal toxicity** LD<sub>50</sub> rat: > 5000 mg/kg

**Inhalation toxicity** LC<sub>50</sub> rat: > 0.96 mg/L (4 h) (aerosol) – highest attainable concentration

**Skin irritation** Slightly irritating (rabbit)

**Eye irritation** Risk of serious damage to eyes (rabbit)

**Sensitisation** Not sensitising (guinea pig)

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## 11. TOXICOLOGICAL INFORMATION- CONTINUED

### Chronic:

Animal studies with bitertanol have shown that it is not carcinogenic, not teratogenic and does not cause adverse reproductive effects.

In animal studies, *N*-methyl-2-pyrrolidone showed a developmental toxic effect in high doses which were maternally toxic.

## 12. ECOLOGICAL INFORMATION

Toxic to aquatic organisms and may cause long term adverse effects in the aquatic environment. It has a low toxicity to bees and earthworms. DO NOT contaminate streams, rivers or waterways with the product or used containers.

### **Ecotoxicity**

#### Baycor 300:

*Fish toxicity:* LC<sub>50</sub> (96 h): 8.31 mg/L rainbow trout (*Oncorhynchus mykiss*)

*Algae toxicity:* EC<sub>50</sub> (72 h): 5.75 mg/L green alga (*Desmodesmus subspicatus*)

#### Bitertanol:

*Fish toxicity:* LC<sub>50</sub> (96 h): 2.14 mg/L rainbow trout (*Oncorhynchus mykiss*)

LC<sub>50</sub> (96 h): 3.54 mg/L bluegill sunfish (*Lepomis macrochirus*)

*Daphnia toxicity:* LC<sub>50</sub> (48 h): 1.8 – 7 mg/L (*Daphnia magna*)

*Algae toxicity:* E,C<sub>50</sub> (72 h): 6.52 mg/L green algae (*Desmodesmus subspicatus*)

*Bird toxicity:* LD<sub>50</sub>: 776 mg/kg bobwhite quail

LD<sub>50</sub>: > 2000 mg/kg mallard duck

### **Environmental fate, persistence and degradability, mobility**

In a water sediment study bitertanol was inherently degradable: < 70% in 28 days.

Degradation in soil is rapid. Mobility in soil is low. The bioconcentration factor (BCF) for bitertanol is 160.

*N*-methyl-2-pyrrolidone is readily biodegradable.

## 13. DISPOSAL CONSIDERATIONS

Rinse container before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. Dispose of at a local authority landfill. If no landfill is available, bury the container below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt. Dispose of waste product through a reputable waste contractor.

## 14. TRANSPORT INFORMATION

<b>UN number</b>	UN 3082
<b>Proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (contains bitertanol)
<b>Class and Subsidiary Risk</b>	Class 9
<b>Packing Group</b>	Packing Group III
<b>Hazchem code</b>	-3Z
<b>Marine Pollutant</b>	Yes
<b>Note for Road and Rail Transport</b>	According to AU01, Environmentally Hazardous Substances in packagings, IBCs or any other receptacle not exceeding 500 kg or 500 L are not subject to the ADG Code

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## 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994.

Australian Pesticides and Veterinary Medicines Authority approval number: 30381  
See also Section 2.

## 16. OTHER INFORMATION

**Trademark information** Baycor® is a Registered Trademark of Bayer.

**Preparation information** Replaces November 26<sup>th</sup> 2009 edition.  
Reasons for update: Hazards Identification, Fire fighting measures, Exposure standards.

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 should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

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.

END OF MSDS