

MATERIAL SAFETY DATA SHEET



Date of Issue: September 12, 2005

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product name Folicur[®] 430 SC Fungicide
Other names None
Product codes and pack sizes 4953176 (5 L), 6328288 (10 L), 6528791 (20 L), 6282393 (60 L)
Chemical group Triazole
Recommended use Fungicide for agricultural use
Formulation Suspension concentrate (SC)
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
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 phrase below) – NON DANGEROUS GOOD (road/rail)
TOXIC TO AQUATIC ORGANISMS

Hazard classification Hazardous (National Occupational Health and Safety Commission - NOHSC)
Risk phrases R63 – Possible risk of harm to the unborn child.
Safety phrases See Sections 4, 5, 6, 7, 8, 10, 12, 13
ADG classification Not a "Dangerous good" for transport by road or rail according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. If shipped by sea, this product is a Class 9 ENVIRONMENTALLY HAZARDOUS SUBSTANCE. See Section 14.
SUSDP classification (poison schedule) 5 (Standard for the Uniform Scheduling of Drugs and Poisons)

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients	CAS Number	Concentration (g/L)
Tebuconazole	[107534-96-3]	430
Other ingredients, including wetting and suspending agents and water	(non hazardous)	690

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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.

Inhalation	If inhaled remove to fresh air and keep at rest. Obtain medical advice.
Skin contact	Carefully remove contaminated clothing. Wash affected areas with soap and water. Seek medical advice.
Eye contact	Rinse eyes immediately with clean water for at least 15 minutes and obtain medical aid immediately.
Ingestion	Wash out mouth with water. Do NOT induce vomiting. Keep patient at rest and seek medical advice immediately.
First Aid Facilities	Ensure washing facilities are available.
Medical attention	<i>Local contamination:</i> Treatment should be symptomatic after decontamination. In case of skin or eye contamination, treat as above under First Aid Measures. <i>Systemic poisoning:</i> There is no specific antidote. Treat symptoms. For significant ingestions, an aqueous suspension of activated charcoal may be administered to absorb remaining toxicant.

5. FIRE FIGHTING MEASURES

Extinguishing media	Water spray, foam, dry chemical, carbon dioxide, sand
Hazards from combustion products	In a fire, formation of hydrogen chloride, hydrogen cyanide, carbon monoxide and nitrogen oxides can be expected.
Precautions for fire fighters	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. Bund area with sand or earth to prevent contamination of drains or waterways. Dispose of extinguishing agent and spillage safely later.
Hazchem code	Not applicable

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled material or contaminated surfaces. Do not smoke, eat or drink during the clean up process. Wear personal protective clothing and equipment as detailed in Section 8 PERSONAL PROTECTION. Keep people and animals away. Contain spill and absorb with earth, sand, clay, or other absorbent material. Prevent spilled material from entering drains or watercourses. Collect and store in properly labelled drums for safe disposal. Clean floor with a damp cloth and place it in the drum. Seal drums and label ready for safe 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

Handling	Keep out of reach of children. Will irritate eyes and skin. Avoid contact with eyes and skin. Do not inhale spray mist. 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 and contaminated clothing.
Storage	Store in the closed, original container in a cool, well ventilated area. Do not store for prolonged periods in direct sunlight.
Flammability	Not flammable

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure standards	The NOHSC exposure standard (TWA) for glycerin mist is: 10 mg/m ³ <i>Exposure standard – Time Weighted Average (TWA)</i> means the average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day working week.
Biological limit values	None allocated
Engineering controls	Control process conditions to avoid contact. Use in a well-ventilated area only.
Personal Protective Equipment	Eyes: Safety goggles if exposure is possible Clothing: Cotton overalls buttoned to the neck and wrist and a washable hat. Gloves: Elbow-length PVC gloves Respiratory: If inhalation is likely, an AS/NZS 1715/1716 approved respirator should be worn.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Off white liquid suspension
Odour:	Negligible
pH:	8.0 to 10.0
Vapour pressure:	1.7 x 10 ⁻³ mPa at 20° C
Vapour density:	Not available
Boiling point:	Not available
Freezing/melting point:	Not available
Solubility:	Miscible with water
Specific Gravity:	1.12 at 20° C
Flash Point:	> 100° C. No flash point up to the boiling point.
Flammability (explosive) limits:	Not applicable
Auto-ignition temperature:	Not available
Partition coefficient (octanol/water):	<i>Tebuconazole</i> : Log P _{ow} = 3.7 at 20° C

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10. STABILITY AND REACTIVITY

Chemical stability	Stable under normal conditions of use.
Conditions to avoid	Excessive heat
Incompatible materials	Oxidising agents
Hazardous decomposition products	In a fire, formation of hydrogen chloride, hydrogen cyanide, carbon monoxide and nitrogen oxides can be expected.
Hazardous reactions	None

11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

Inhalation	Harmful if inhaled.
Skin contact	Will irritate the skin.
Eye contact	Will irritate the eyes.
Ingestion	Harmful if swallowed.

ANIMAL TOXICITY DATA – PRODUCT

<u>Acute:</u>	
Oral toxicity	LD ₅₀ rat: 3710 mg/kg
Dermal toxicity	LD ₅₀ rat: > 2011 mg/kg
Inhalation toxicity	LC ₅₀ rat (4 hour): > 2.5 mg/L (aerosol, highest attainable concentration, no deaths)
Skin irritation	Slightly irritating (rabbit)
Irritation of mucous membranes	Slightly irritating (rabbit)
Sensitisation	Not a skin sensitiser (guinea pig)

Chronic:

Tebuconazole is not listed by The National Toxicology Program (NTP) or the International Agency for Research on Cancer (IARC) as a carcinogen. The European Union has classified tebuconazole as having a possible risk of harm to the unborn child. Tebuconazole was not mutagenic or genotoxic in a battery of *in vitro* and *in vivo* mutagenicity studies.

12. ECOLOGICAL INFORMATION

Tebuconazole has a low hazard to birds, earthworms and bees. It is moderately toxic to fish and aquatic organisms. DO NOT contaminate streams, rivers or waterways with Folicur or the used containers.

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12. ECOLOGICAL INFORMATION - continued

Ecotoxicity

Tebuconazole:

Fish toxicity: LC₅₀ (96 h) bluegill sunfish (*Lepomis macrochirus*) 5.7 mg/L
LC₅₀ (96 h) rainbow trout (*Onchorhynchus mykiss*) 4.4 mg/L
Daphnia toxicity: EC₅₀ (48 h) water flea (*Daphnia magna*) 2.79 mg/L
Algal toxicity:
Growth rate: EC₅₀ (72 h) green algae (*Pseudokirchneriella subcapitata*) 3.8 mg/L
Bird toxicity:
Acute oral LD₅₀ bobwhite quail 1988 mg/kg
Acute oral LD₅₀ male Japanese quail 4438 mg/kg
Acute oral LD₅₀ female Japanese quail 2912 mg/kg

Environmental fate, persistence and degradability, mobility

The photolysis/metabolism half-life of tebuconazole is 2-3 months in natural water. It is strongly bound to soil and has low mobility.
Bioconcentration factor (BCF): 78

13. DISPOSAL CONSIDERATIONS

When returnable container is empty or contents no longer required return it to the point of purchase. For non-returnable containers, triple or (preferably) pressure rinse them before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on-site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers 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 via a reputable disposal contractor.

14. TRANSPORT INFORMATION

UN number	Not applicable for road/rail
Proper shipping name	Not applicable for road/rail
Class and Subsidiary Risk	Not applicable for road/rail
Packing Group	Not applicable for road/rail
EPG	Not applicable for road/rail
Hazchem code	Not applicable for road/rail
Marine Pollutant	Yes. If the product is shipped by sea the classification is ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (contains tebuconazole), Class 9, UN 3082, Packing Group III.

15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Act 1988

Australian Pesticides and Veterinary Medicines Authority approval number: 46794

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16. OTHER INFORMATION

Trademark information Folicur® is a Registered Trademark of Bayer.

Preparation information Replaces January 13, 2004 MSDS.
Reasons for revision: Product codes and pack sizes, removed R20 and added R63 risk phrase, Marine Pollutant Class 9 if shipped by sea, declared ingredients, pH, acute toxicity values, chronic toxicity, disposal for returnable containers, EC₅₀ Daphnia.

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