

MATERIAL SAFETY DATA SHEET



Date of Issue: March 7, 2006

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product name Jockey[®] Systemic Seed Fungicide

Other names None

Product codes and pack sizes 4249231 (10 L), 6358330 (100 L), 3227417 (200 L), 6465196 (1000 L)

Chemical group Triazole

Recommended use Fungicide for agricultural use – seed treatment

Formulation Flowable concentrate for seed treatment (FS)

Supplier Bayer CropScience Pty Ltd ABN 87 000 226 022

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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 R20/22 - Harmful by inhalation and if swallowed.
R48/25 – Toxic: danger of serious damage to health by prolonged exposure if swallowed.

Safety phrases See Sections 4, 5, 6, 7, 8, 10, 12, 13

ADG classification Dangerous goods for transport by road or rail according to the Australian Code for the Transport of Dangerous Goods by Road and Rail, Class 6.1, PESTICIDE, LIQUID, TOXIC, N.O.S (fluquinconazole solution), UN 2902, Packing Group III, Marine Pollutant.
See Section 14.

SUSDP classification (Poison Schedule) Schedule 6 (Standard for the Uniform Scheduling of Drugs and Poisons)

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients	CAS Number	Concentration (g/L)
Fluquinconazole	[136426-54-5]	167
Propane-1-2-diol	[57-55-6]	> 100 to < 300
Other ingredients, including water	(non hazardous)	Remainder

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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 move to fresh air and keep at rest. Obtain medical advice if symptoms persist.
Skin contact	Carefully remove contaminated clothing. Wash affected areas with soap and water. Seek medical aid if symptoms persist.
Eye contact	Rinse eyes immediately with plenty of clean water and obtain medical advice.
Ingestion	Wash out mouth with water. Do NOT induce vomiting. Keep patient at rest and seek URGENT medical advice as above.
First Aid Facilities	Ensure eyewash and shower facilities are available.
Medical attention	<i>Local contamination:</i> Symptoms: None known Treatment: Initial treatment should be symptomatic and supportive after decontamination. <i>Systemic poisoning:</i> Symptoms: Lethargy, weakness, ataxia, muscle twitching, incontinence. Treatment: Monitoring of respiratory, cardiac and central nervous system. Carefully monitor liver function. Gastric lavage, followed by administration of an aqueous suspension of activated charcoal to absorb remaining toxicant. There is no specific antidote.

5. FIRE FIGHTING MEASURES

Extinguishing media	Water spray, alcohol-resistant foam, dry chemical, carbon dioxide Product itself is non combustible; choose fire extinguishing media to suit surroundings.
Hazards from combustion products	Dangerous gases may be evolved in a fire.
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. Otherwise, spray unopened containers with water to keep cool. Bund area with sand or earth to prevent contamination of drains or waterways. Dispose of extinguishing agent and spillage safely later.
Hazchem code	2X

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. May irritate eyes. Avoid contact with eyes and avoid inhalation of dust from grain or treated seed. Wash hands after use. After each day's use, wash gloves, goggles and contaminated clothing. Do not allow seed treated with this product to contaminate seed intended for human or animal consumption. Bags which have held treated seed are not to be used for any other purpose.
Storage	Store in the closed, original container in a cool, well-ventilated area. Do not store for prolonged periods in direct sunlight. Do not store near foodstuffs or animal feed. When treated seed is stored it should be kept apart from other grain in a dry well-ventilated place. The bags or other containers should be clearly marked to indicate the contents have been treated with this product.
Flammability	Product is not combustible.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure standards	The NOHSC exposure standards for propane-1,2-diol are: Vapour and particulates - TWA 150 ppm, 474 mg/m ³ Particulates only - TWA 10 mg/m ³ <u>Definition</u> <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 local exhaust ventilation during manufacture. 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 or equivalent clothing and a washable hat. Gloves: Elbow-length PVC gloves Respiratory: If inhalation of product or dust from grain or treated seed is likely, an AS/NZS 1715/1716 approved respirator suitable for fine dust should be worn.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Viscous red suspension
Odour:	Negligible
pH:	6.5 to 8.5
Vapour pressure:	Not available
Vapour density:	Not available
Boiling point:	Not available
Freezing/melting point:	- 13.7° C (freezing temperature)
Solubility:	Miscible with water
Density:	Approximately 1.09 g/mL at 20° C

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9. PHYSICAL AND CHEMICAL PROPERTIES - continued

Flash Point:	Not combustible
Flammability (explosive) limits:	Not available
Auto-ignition temperature:	Not available
Partition coefficient (octanol/water):	<i>Fluquinconazole</i> : Log P_{ow} = 3.24 (pH 5.6)

10. STABILITY AND REACTIVITY

Chemical stability	Stable under normal conditions of use.
Conditions to avoid	Extremes of temperature and direct sunlight.
Incompatible materials	None
Hazardous decomposition products	Dangerous gases may be evolved in a fire.
Hazardous reactions	None

11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

Inhalation	Harmful if inhaled.
Skin contact	Negligible skin penetration. Not irritating or sensitising to skin in animal tests.
Eye contact	May irritate the eyes.
Ingestion	Harmful if swallowed.

ANIMAL TOXICITY DATA - PRODUCT

<u>Acute:</u>	
Oral toxicity	LD ₅₀ rat: 300 - 2000 mg/kg
Dermal toxicity	LD ₅₀ rat: > 4000 mg/kg
Inhalation toxicity	Not available
Skin irritation	Non irritating (rabbit)
Eye irritation	Non irritating (rabbit)
Sensitisation	Non sensitising (guinea pig)

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11. TOXICOLOGICAL INFORMATION - continued

Chronic:

Fluquinconazole was not mutagenic in a battery of genotoxicity tests. It did not show carcinogenic or teratogenic effects in animal experiments.

12. ECOLOGICAL INFORMATION

Jockey is toxic to fish and other aquatic organisms. Fluquinconazole has a low hazard to birds and earthworms. DO NOT feed treated seed or otherwise expose to wildlife or domestic birds. DO NOT contaminate streams, rivers, or waterways with the chemical, used containers, treated seed or bags which have held treated seed.

Ecotoxicity

Fluquinconazole:

Fish toxicity: LC₅₀ (96 h) rainbow trout (*Onchorhynchus mykiss*) 1.9 mg/L

LC₅₀ (96 h) bluegill sunfish 1.34 mg/L

Daphnia toxicity: EC₅₀ (48 h) water flea (*Daphnia magna*) > 5 mg/L

Algal toxicity:

Growth rate: E_bC₅₀ (96 h) algae (*Selenastrum capricornutum*) 0.014 mg/L

Bird toxicity:

Acute oral LD₅₀ bobwhite quail and mallard duck > 2000 mg/kg

Jockey Systemic Seed Fungicide:

Fish toxicity: LC₅₀ (96 h) zebra fish (*Danio rerio*) 4.66 mg/L

Daphnia toxicity: EC₅₀ (48 h) water flea (*Daphnia magna*) 142.7 mg/L

Environmental fate, persistence and degradability, mobility

Fluquinconazole is degraded in soil under aerobic and anaerobic conditions. Dissipation is mainly a hydrolytic process, but further degradation and mineralisation involves microbial action. The metabolites are finally transformed to soil-bound residues and CO₂. Degradation rates depend on temperature, soil moisture, soil pH and organic matter content. Typical field DT₅₀ is 50-300 days. Fluquinconazole is strongly adsorbed to soils – K_{oc} > 738. Soil column leaching models demonstrated that fluquinconazole will not leach to deeper soil layers and contaminate groundwater.

Bioconcentration factor (BCF): 87

13. DISPOSAL CONSIDERATIONS

10, 200 L: Triple or (preferably) pressure rinse containers before disposal. Dispose of rinsings in disposal pit, or use for diluting product to required volume. 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 through a reputable waste contractor.

100 L; 1000 L Schutz and conventional containers with dry break connection: Empty container by pumping through the dry-break connection system. Do not attempt to unscrew the valve or breach the locked filling point. Do not contaminate the container with water or other foreign material. Ensure that the coupler, pump, meter and hoses are disconnected, triple rinsed with clean water and drained after each use. When empty, or contents no longer required, return the container to the point of purchase. This container remains the property of Bayer CropScience Pty Ltd.

Schutz container with camlock valve connection: If tamper evident seals are broken prior to initial use then the integrity of the contents cannot be assured. The container must be vented before discharging contents. To empty connect a camlock fitted hose to the bottom valve. Remove top cap when discharging for venting purposes. When the container is empty, close all caps and valves and return the container to the point of purchase.

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14. TRANSPORT INFORMATION

UN number	2902
Proper shipping name	PESTICIDE, LIQUID, TOXIC, N.O.S. (fluquinconazole solution)
Class and	6.1
Subsidiary Risk	No subsidiary risk
Packing Group	III
EPG	Guide 34 - Dangerous Goods - Initial Emergency Response Guide
Hazchem code	2X
Marine Pollutant	Yes

15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Act 1988

Australian Pesticides and Veterinary Medicines Authority approval number: 52622 See also Section 2.

16. OTHER INFORMATION

Trademark information Jockey® is a Registered Trademark of Bayer.

Preparation information Replaces August 1, 2002 MSDS. Reasons for revision: 16 heading format, product codes and pack sizes, addition of Risk phrases R20 and R48/25, Dangerous Goods classification, Marine Pollutant, acute oral LD₅₀, Disposal, Exposure Standards for propane-1,2-diol

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