

MATERIAL SAFETY DATA SHEET



Date of Issue: November 26, 2004

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product name Raxil® T Dry Seed Dressing
Other names None
Product codes and pack sizes 6351204 (10 kg)
Chemical group Triazole + benzoylurea
Recommended use Fungicide plus insecticide for agricultural use – seed treatment
Formulation Powder for dry seed treatment (DS)
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
NON-HAZARDOUS SUBSTANCE – NON-DANGEROUS GOOD
Harmful to fish and aquatic organisms

Hazard classification Not Hazardous (National Occupational Health and Safety Commission - NOHSC)
Risk phrases None assigned
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.
SUSDP classification 5 (Standard for the Uniform Scheduling of Drugs and Poisons)

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients	CAS Number	Concentration (g/kg)
Tebuconazole	[107534-96-3]	25
Triflumuron	[64628-44-0]	4
Talc	[14807-96-6]	~ 600
Calcium carbonate	[471-34-1] or [1317-65-3]	~ 300
Other ingredients, including emulsifiers, dispersing agents, dye and carriers	(non hazardous)	~ 71

MATERIAL SAFETY DATA SHEET



Date of Issue: November 26, 2004

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 aid if at all worried.
Eye contact	Rinse eyes immediately with clean water for at least 15 minutes and obtain medical aid.
Ingestion	Wash out mouth with water. Do NOT induce vomiting. Keep patient at rest and seek medical advice as above.
First Aid Facilities	Ensure eyewash and shower facilities are available.
Medical attention	<i>Local contamination:</i> 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. 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, hydrogen fluoride, 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. Prevent spilled material from entering drains or watercourses. Avoid creation of dust, damping down if necessary. Sweep up and 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.

MATERIAL SAFETY DATA SHEET



Date of Issue: November 26, 2004

7. HANDLING AND STORAGE

Handling	Keep out of reach of children. Avoid contact with eyes and avoid inhalation of dust from product, grain or treated seed. Wash hands after use. 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 product in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. When treated seed is stored it should be kept apart from other grain and the bags or other containers should be clearly marked to indicate the contents have been treated with this product.
Flammability	Not flammable, but fine dust particles can form explosive mixtures with air.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure standards	The NOHSC exposure standard (TWA) for talc is: 2.5 mg/m ³ The NOHSC exposure standard (TWA) for calcium carbonate 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: Wear a disposable respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Red powder
Odour:	Slight characteristic
pH:	7.5 to 9.0 (1% in water)
Vapour pressure:	Not available
Vapour density:	Not available
Boiling point:	Not applicable
Freezing/melting point:	Not available
Solubility:	Insoluble in water
Bulk density:	220 / 130 mL/100 g (loose / packed)
Flash Point:	Not applicable
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 <i>Triflumuron</i> : Log P _{ow} = 4.9 at 22° C

MATERIAL SAFETY DATA SHEET



Date of Issue: November 26, 2004

10. STABILITY AND REACTIVITY

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

11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

Inhalation	Harmful if inhaled. Prolonged exposure may cause irritation of respiratory tract.
Skin contact	May irritate the skin. Prolonged exposure may cause irritation.
Eye contact	May irritate the eyes. Prolonged exposure may cause eye irritation.
Ingestion	Harmful if swallowed.

ANIMAL TOXICITY DATA

Acute:	
Oral toxicity	LD ₅₀ rat (female): 1700 mg/kg - <i>tebuconazole active ingredient</i> LD ₅₀ rat (male): 4000 mg/kg - <i>tebuconazole active ingredient</i> LD ₅₀ rat: > 5000 mg/kg - <i>triflumuron active ingredient</i>
Dermal toxicity	LD ₅₀ rat: > 5000 mg/kg - <i>tebuconazole active ingredient</i> LD ₅₀ rat: > 5000 mg/kg - <i>triflumuron active ingredient</i>
Inhalation toxicity	LC ₅₀ rat (4 hour): > 5.1 mg/L (dust) - (<i>tebuconazole</i>) LC ₅₀ rat (4 hour): > 1.55 mg/L (dust) - (<i>triflumuron</i>)- <i>highest attainable concentration</i>
Skin irritation	Slightly irritating (rabbit) - <i>derived from ingredient data</i>
Irritation of mucous membranes	Slightly irritating (rabbit) - <i>derived from ingredient data</i>
Sensitisation	Not a skin sensitiser (guinea pig) - <i>derived from ingredient data</i>

Chronic:

Animal studies have shown that tebuconazole is not oncogenic or carcinogenic, is not teratogenic, does not cause reproductive effects and is not mutagenic.

Triflumuron had no mutagenic activity in various *in vitro* and *in vivo* tests.

MATERIAL SAFETY DATA SHEET



Date of Issue: November 26, 2004

12. ECOLOGICAL INFORMATION

Tebuconazole presents a low hazard to birds, earthworms and bees. It is moderately toxic to fish and aquatic organisms.

Triflumuron is very toxic to aquatic organisms, but it is present at a low concentration in this product. Triflumuron is toxic to bees, but used as a seed treatment according to label directions should not put hives at risk.

Raxil T Dry Seed Dressing is harmful to fish and aquatic arthropods. 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

Tebuconazole:

Fish toxicity: LC₅₀ (96 h) bluegill sunfish (*Lepomis macrochirus*) 5.7 mg/L

LC₅₀ (96 h) trout (*Onchorhynchus mykiss*) 4.4 mg/L

Daphnia toxicity: EC₅₀ (48 h) water flea (*Daphnia magna*) 4.2 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

Bacteria toxicity: EC₅₀ activated sludge > 10000 mg/L

Triflumuron:

Fish toxicity: LC₅₀ (96 h) bluegill sunfish (*Lepomis macrochirus*) > 20.8 µg/L

LC₅₀ (96 h) rainbow trout (*Onchorhynchus mykiss*) > 24.2 µg/L

Daphnia toxicity: EC₅₀ (48 h) water flea (*Daphnia magna*) 1.6 µg/L

Algal toxicity:

Growth rate: IC₅₀ (72 h) green algae (*Desmodesmus subspicatus*) > 0.025 mg/L

Bird toxicity:

Acute oral LD₅₀ bobwhite quail 561 mg/kg

Bacteria toxicity: EC₅₀ activated sludge > 10000 mg/L

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.

Tebuconazole bioconcentration factor (BCF): 78

Triflumuron degrades fairly rapidly in soil.

Triflumuron bioconcentration factor (BCF): 612

13. DISPOSAL CONSIDERATIONS

Single rinse containers before disposal. Add rinsings to disposal pit. Do not dispose of undiluted chemicals on site. Puncture and bury empty containers in a local authority landfill. If not available, bury containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, vegetation and roots. Empty containers and product should not be burnt. Bags which have held treated seed should not be used for any other purpose. Dispose of waste product through a reputable waste contractor.

MATERIAL SAFETY DATA SHEET



Date of Issue: November 26, 2004

14. TRANSPORT INFORMATION

UN number	Not applicable
Proper shipping name	Not applicable
Class and Subsidiary Risk	Not applicable
Packing Group	Not applicable
EPG	Not applicable
Hazchem code	Not applicable
Marine Pollutant	No (Raxil T Dry Seed Dressing contains 0.4% triflumuron. Triflumuron is classified as a Marine Pollutant "P" in Europe, but it is not on the IMDG list.)

15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Act 1988

National Registration Authority approval number: 40407 See also Section 2.

16. OTHER INFORMATION

Trademark information Raxil® is a Registered Trademark of Bayer.

Preparation information Reasons for revision: 16 heading format, Exposure standards, Toxicity data, Ecological information

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