Material safety data sheet

Tebuconazole 430 SC

Issued: July, 2010

Section 1: SUBSTANCE IDENTIFICATION AND SUPPLIER

Trade Name:	**UNITED FARMERS TEBUCONAZOLE 430 SC FUNGICIDE**
Substance:	Tebuconazole is an azole derivative.
Product Use:	Agricultural fungicide for use as described on the product label.
Company Identification:	Ravensdown Fertiliser Co-operative Limited - Incorporated in New Zealand
Address:	2 Birksgate Rd Rous Head North Fremantle, WA 6160
Customer Centre:	1800 624 122
Poisons Information Centre:	13 1126 in Australia, 0800 764 766 in New Zealand
Emergency Telephone Number:	For specialist advice call 1800 705 766 (24hr) (Emergencies Only)
Transport Emergency:	IN AN EMERGENCY, DIAL 000 - FIRE or POLICE

Section 2: HAZARD IDENTIFICATION

Statement of Hazardous Nature: This product is classified as: Hazardous according to the criteria of NOHSC Australia. Not a Dangerous Good according to the Australian Dangerous Goods (ADG) Code.

Risk Phrases:

R22	Harmful if swallowed.
R36/38	Irritating to eyes and skin.

Safety Phrases:

S20	When using, do not eat or drink.
S36	Wear suitable protective clothing.
S24/25	Avoid contact with skin and eyes.

Section 3: COMPOSITION INFORMATION

INGREDIENTS	CAS No	Conc,%	TWA (mg/m^3)	STEL (mg/m^3)
Tebuconazole	107534-96-3	43	not set	not set
Other non hazardous ingredients		<10	not set	not set
Water	7732-18-5	to 100	not set	not set

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.
The TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that should not be exceeded for more than 15 minutes and should not be repeated for more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak "is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

Section 4: FIRST AID MEASURES

Emergency Overview

Physical Description & Colour:	Off-white liquid suspension.
Odour:	Mild, characteristic odour.
Major Health Hazards:	Irritating to eyes and skin, harmful if swallowed.
General Information:	You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this MSDS with you when you call.
Inhalation:	First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Skin Contact: Wash gently and thoroughly with warm water (use non-abrasive soap if necessary) for 10-20 minutes or until product is removed. Under running water, remove contaminated clothing, shoes and leather goods (e.g. watchbands and belts) and completely decontaminate them before reuse or discard. If irritation persists, repeat flushing and seek medical attention.

Eye Contact: Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 20 minutes or until the product is removed, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Obtain medical attention immediately. Take special care if exposed person is wearing contact lenses.

Ingestion: If swallowed, do NOT induce vomiting. Wash mouth with water and contact a Poisons Information Centre, or call a doctor.

Section 5: FIRE FIGHTING MEASURES

Fire and Explosion Hazards: There is no risk of an explosion from this product under normal circumstances if it is involved in a fire. Only small quantities of decomposition products are expected from this product at temperatures normally achieved in a fire. This will only occur after heating to dryness.
Fire decomposition products from this product are likely to be harmful if inhaled. Take suitable protective measures.

Extinguishing Media: Not Combustible. Use extinguishing media suited to burning materials.

Fire Fighting: If a significant quantity of this product is involved in a fire, call the fire brigade.

Flash point: Does not burn.

Upper Flammability Limit: Does not burn.

Lower Flammability Limit: Does not burn.

Autoignition temperature: Not applicable - does not burn.

Flammability Class: Does not burn.

Section 6: ACCIDENTAL RELEASE MEASURES

Spills and Disposal: Wear appropriate protective clothing. Exclude non-essential people from the area. Contain spill and absorb with inert material such as soil, sand or absorbent granules and place in a sealable waste container. Dispose of waste safely in an approved landfill.

Protective Clothing: For appropriate personal protective equipment see Section 8.

Environmental Precaution: Prevent from entering drains, waterways or sewers. If spill does enter waterways contact local authority.

Section 7: HANDLING AND STORAGE

Handling: Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this MSDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

Storage: This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. Some liquid preparations settle or separate on standing and may require stirring before use. Check packaging - there may be further storage instructions on the label.

Section 8: EXPOSURE CONTROL/PERSONAL PROTECTION

The following Australian Standards will provide general advice regarding safety clothing and equipment:
Respiratory equipment: **AS/NZS 1715,** Protective Gloves: **AS 2161,** Industrial Clothing: **AS2919,** Industrial Eye Protection: **AS1336** and **AS/NZS 1337,** Occupational Protective Footwear: **AS/NZS2210.**

Exposure Limits: Exposure limits have not been established by NOHSC for any of the significant ingredients in this product.
The ADI for Tebuconazole is set at 0.01mg/kg/day. The corresponding NOEL is set at 1.5mg/kg/day. ADI means Acceptable Daily Intake and NOEL means No-observable-effect-level. Values taken from Australian ADI List, Dec 2004.

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

Ventilation: No special ventilation requirements are normally necessary for this product. However make sure that the work environment remains clean and that vapours and mists are minimised.

Eye Protection: Protective glasses or goggles should be worn when this product is being used. Failure to protect your eyes may cause them harm. Emergency eye wash facilities are also recommended in an area close to where this product is being used.

Skin Protection: Prevent skin contact by wearing impervious gloves, clothes and, preferably, apron. Make sure that all skin areas are covered. See below for suitable material types.

Protective Material Types We suggest that protective clothing be made from the following materials: rubber, PVC.

Respirator: Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above.

Eyebaths or eyewash stations and safety deluge showers should be provided near to where this product is being used.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical Description & colour:	Off-white liquid suspension.
Odour:	Mild, characteristic odour.
Boiling Point:	Approximately 100°C at 100kPa.
Freezing/Melting Point:	Approximately 0°C.
Volatiles:	Water component.
Vapour Pressure:	2.37 kPa at 20°C (water vapour pressure).
Vapour Density:	No data.
Specific Gravity:	1.12 approx
Water Solubility:	Completely soluble in water.
pH:	4.0-7.0
Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	No data.
Coeff Oil/water Distribution:	No data
Viscosity:	800-1200cps at 25°C (Brookfield)
Autoignition temp:	Not applicable - does not burn.

Section 10: STABILITY AND REACTIVITY

Reactivity: This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.

Conditions to Avoid: Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

Incompatibilities: Strong oxidising agents.

Fire Decomposition: Only small quantities of decomposition products are expected from this products at temperatures normally achieved in a fire. This will only occur after heating to dryness. Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas. Water. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

Polymerisation: This product will not undergo polymerisation reactions.

Section 11: TOXICOLOGICAL INFORMATION

Potential Health Effects

Inhalation:

Short Term Exposure: Available data indicates that this product is not harmful. In addition product is unlikely to cause any discomfort or irritation.

Long Term Exposure: No data for health effects associated with long term inhalation.

Skin Contact:

Short Term Exposure: Available data indicates that this product is not harmful. It should present no hazards in normal use. However product is a skin irritant. Symptoms may include itchiness and reddening of contacted skin. Other symptoms may also become evident, but all should disappear once exposure has ceased.

Long Term Exposure: No data for health effects associated with long term skin exposure.

Eye Contact:

Short Term Exposure: This product is an eye irritant. Symptoms may include stinging and reddening of eyes and watering which may become copious. Other symptoms may also become evident. If exposure is brief, symptoms should disappear once exposure has ceased. However, lengthy exposure or delayed treatment may cause permanent damage.

Long Term Exposure: No data for health effects associated with long term eye exposure.

Ingestion:

Short Term Exposure: Significant oral exposure is considered to be unlikely. Available data shows that this product is harmful, but symptoms are not available. This product is unlikely to cause any irritation problems in the short or long term.

Long Term Exposure: No data for health effects associated with long term ingestion.

Toxicity: Tebuconazole: LD_{50} Oral, Rat 1700mg/kg; LD_{50} Oral, Mouse = 3000mg/kg; LD_{50} Dermal, Rat = >5000mg/kg; LC_{50} Inhalation, Rat = 0.37mg/L/4hr

Classification of Hazardous Ingredients:	**Ingredient**	**Risk Phrases**
	Tebuconazole	Conc>=25%: Xn; R22; R63

Carcinogen Status:

NOHSC: No significant ingredient is classified as carcinogenic by NOHSC.

NTP: No significant ingredient is classified as carcinogenic by NTP.

IARC: No significant ingredient is classified as carcinogenic by IARC.

Section 12: ECOLOGICAL INFORMATION

Tebuconazole

Birds:	LD_{50} Male Japanese quail: 4438mg/kg LD_{50} bobwhite quail: 1988mg/kg	LD_{50} Female Japanese quail: 2912mg/kg
Fish:	LC_{50} rainbow trout: 6.4mg/L	LC_{50} golden orfe: 8.7mg/L
Algae:	EC_{50} 4.01mg/L	
Daphnia:	EC_{50} 11 .5mg/L	
Worms:	LD_{50} (Eisenia foetida) 1.381mg/kg	

Environmental Fate

Animals:	After three days, elimination is almost complete. Tebuconazole is excreted in urine and faeces.
Plants:	In plant tissues, a mean half life of 12 days has been established.
Soil/Environment:	Degrades slowly in soil studies conducted in the laboratory. Under field conditions, the compound degraded much more rapidly and did not accumulate in long term (3-5 year) studies. Since no residues could be detected in deeper soil layers of these and other studies, and adsorption/desorption studies indicate low mobility in soil, groundwater contamination through leaching can be excluded. In natural waters, hydrolysis and indirect photolysis occur; in a pond study, the compound dissipated from the water body with a DT_{50} of 11-3 weeks. Low vapour pressure and strong adsorption result in low volatilisation into the air.

Section 13: DISPOSAL INFORMATION

Follow label advice for the disposal of empty containers, packaging and for the return of refillable containers.

Product Disposal:	For the disposal of unwanted / unusable chemicals, seek advice from suppliers, local government, your local Waste Management Authority and consult ChemClear, 1800 008 182 http://www.chemclear.com.au/
Container Disposal:	Where possible, used containers should be recycled after triple rinsing. Check with local suppliers and or DrumMUSTER http://www.drummuster.com.au/. Otherwise, bury at an authorised landfill. Before disposing of unwanted containers or used packaging on a property, ensure that all appropriate regulations, both Local and State Government, are observed. Significant penalties may apply.

Section 14: TRANSPORT INFORMATION

ADG Code:	This product is not classified as a Dangerous Good. No special transport conditions are necessary unless required by other regulations.
UN Number:	None allocated
SUSDP Classification:	S5
ADG Classification:	None allocated. Not a Dangerous Good under the ADG Code.

Section 15: REGULATORY INFORMATION

AICS:	All of the significant ingredients in this formulation are compliant with NICNAS regulations. The following ingredients: Tebuconazole, are mentioned in the SUSDP.

Section 16: OTHER INFORMATION

This MSDS contains only safety-related information. For other data see product literature.

This MSDS supersedes all others and was reviewed: February, 2010

Please read all labels carefully before using product.

This MSDS is prepared in accord with the ASCC document "National Code of Practice for the Preparation of Material Safety Data Sheets"2nd Edition [NOHSC:2011(2003)]