

MATERIAL SAFETY DATA SHEET

Page 1 of Total 5
Date of Issue: December 2012
MSDS No. FMC/TEB430/1

SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: FMC Tebuconazole 430 SC Fungicide

Other Names: Tebuconazole, a Group C Fungicide. A triazole fungicide.
Use: Agricultural Fungicide to control various fungal diseases on crops.
Company: FMC Crop Protection Pty Ltd.
Address: 5 Palmer Place, Murarrie, Qld 4172
Telephone Number: 07 3908 9222 **Fax Number:** 07 3908 9221
Emergency Telephone Number: 1800 033 111 (All hours - Australia wide).

SECTION 2 HAZARDS IDENTIFICATION

**Classified as Hazardous according to criteria of the Safe Work Australia.
Not classified as a Dangerous Good according to the ADG Code.**

Risk Phrases: R22 Harmful if swallowed.
R63 Possible risk of harm to the unborn child.

Safety Phrases: S2 Keep out of reach of children.
S13 Keep away from food, drink and animal feeding stuffs.
S36 Wear suitable protective clothing.
S46 If swallowed, seek medical advice immediately and show this container or label.

Other Information: Poisons Schedule S5.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

| Ingredients: | CAS NUMBER | PROPORTION |
|--|-------------------|-------------------|
| CHEMICAL | | |
| Tebuconazole | 107534-96-3 | 430 g/L |
| Other ingredients considered non-hazardous | | Balance |

SECTION 4 FIRST AID MEASURES

Ingestion: Rinse mouth and then drink plenty of water. If swallowed DO NOT induce vomiting; seek medical advice immediately and show this container or label or contact the Poisons Information Centre phone Australia 13 11 26. Make every effort to prevent vomit from entering the lungs by careful placement of the patient. Do not give anything by mouth to a semi-conscious or unconscious person.

Skin: Wash affected areas thoroughly with soap and water until product is removed. Remove contaminated clothing and launder before re-use. If irritation persists, seek medical advice.

Eye: If in eyes, hold eyelids open and wash with copious amounts of water until product is removed. Seek medical advice.

Inhalation: Over-exposure by inhalation is improbable. Check for other causes of observed symptoms and seek medical advice.

Advice to Doctor: Treat symptomatically. For large ingestions, gastric lavage and administration of activated charcoal and sodium sulphate should be considered. Monitor kidney and respiratory functions.

SECTION 5 | FIRE FIGHTING MEASURES

Specific Hazard: Product is non-combustible.

Extinguishing media: Extinguish fire using carbon dioxide, foam or dry agent. If not available, use waterfog or fine water spray but ensure all runoff is contained.

Hazards from combustion products: There is no risk of an explosion from this product under normal circumstances if involved in a fire. Product is unlikely to decompose until heated to dryness. On further heating will emit toxic fumes. Firefighters to wear self-contained breathing apparatus and suitable protective clothing if risk to of exposure to vapour or smoke.

Precautions for fire-fighters and special protective equipment: Isolate fire area. Evacuate downwind. Wear full protective clothing and self-contained breathing apparatus. Do not breathe or contact smoke, gases or vapours generated.

SECTION 6 | ACCIDENTAL RELEASE MEASURES

Emergency procedures: Isolate and post spill area. Wear cotton overalls buttoned to the neck and wrist, washable hat, elbow-length PVC gloves. In the case of spillage, stop leak if safe to do so, and contain spill. Absorb spilled material with absorbent material such as sand, clay or cat litter and dispose of waste as indicated in section 13 or according to the Australian Standard 2507 - Storage and Handling of Pesticides. Large spills should be dyked or covered to prevent dispersal. Vacuum, shovel or pump spilled material into an approved container and dispose of as in section 13. Keep out unprotected persons and animals.

Material and methods for containment and cleanup procedures: To decontaminate spill area, tools and equipment, wash with detergent and water and add the solution to the drums of wastes already collected and label contents. Absorb, as above, any excess liquid and add both solutions to the drums of waste already collected. Dispose of drummed wastes, including decontamination solution in accordance with the requirements of Local or State Waste Management Authorities.

Do NOT allow spilled product or wash solution to enter sewers, drains, dams, creeks or any other waterways.

SECTION 7 | HANDLING AND STORAGE

Precautions for Safe Handling: Ensure containers are kept closed until using product. Harmful if swallowed. Will irritate the eyes and skin. Avoid contact with eyes and skin. When opening the container, preparing the spray and using prepared spray wear cotton overalls buttoned to the neck and wrist, washable hat, elbow-length PVC gloves. 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.

Conditions for Safe Storage: DO NOT store near (or allow to contact) fertilizers, fungicides or pesticides. Store in the closed original container, in a cool well ventilated area, out of direct sunlight. Store in a room or place away from children, animals, food, feed stuffs, seed and fertilizers. Not classified as a Dangerous Good. This product is a Schedule 5 Poison (S5) and must be stored, transported and sold in accordance with the relevant Health Department regulations.

SECTION 8 | EXPOSURE CONTROLS / PERSONAL PROTECTION**National Exposure Standards:**

Exposure guidelines have not been established for this product by safe Work Australia.

Biological Limit Values:

No biological limit allocated.

Engineering controls:

Use in ventilated areas only. Use local exhaust at all process locations. Ventilate all transport vehicles prior to unloading. Keep containers closed when not in use.

SECTION 8 | EXPOSURE CONTROLS / PERSONAL PROTECTION (Continued)**Personal Protective equipment (PPE):**

General: When opening the container, preparing the spray and using prepared spray wear cotton overalls buttoned to the neck and wrist, washable hat, elbow-length PVC gloves. 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.

Respiratory Protection: Generally not required. Use of a respirator may be required in certain circumstances. If an inhalation risk exists, wear a properly fitted half-face or full-face air-purifying respirator which is approved for pesticides (Australian Standards).

Personal Hygiene: Clean water should be available for washing in case of eye or skin contamination. Wash skin before eating, drinking or smoking. Shower at the end of the workday.

SECTION 9 | PHYSICAL AND CHEMICAL PROPERTIES

| | |
|-------------------------------|---|
| Appearance: | Off-white liquid suspension. |
| Odour: | Slight odour. |
| Solubility in Water: | Suspends in water. |
| Specific Gravity: | Approximately 1.1 |
| pH Value: | 6 – 8 |
| Vapour Pressure: | 1.7 x 10 ⁻³ mPa (20°C for tebuconazole). |
| Octanol/Water | |
| Partition Coefficient: | Kow Log P is 3.7 for tebuconazole. |
| Flammability: | Non combustible material. |
| Poison Schedule: | This product is a schedule 5 (S5) poison. |

SECTION 10 | STABILITY AND REACTIVITY

Chemical Stability: Product is considered stable in ambient conditions for a period of at least 2 years after manufacture.

Conditions to avoid: Do not store for prolonged periods in direct sunlight.

Incompatible materials: Strong oxidising agents.

Hazardous decomposition products: Product is unlikely to decompose until heated to dryness. On further heating will emit toxic and noxious fumes.

Hazardous reactions: No special considerations.

SECTION 11 | TOXICOLOGICAL INFORMATION

No specific data is available for this product as no toxicity tests have been conducted on this product. Information presented is our best judgement based on similar products and/or individual components. As with all products for which limited data is available, caution must be exercised through the use of protective equipment and handling procedures to minimise exposure.

Potential Health Effects:

Ingestion: Low acute toxicity. However swallowing large amounts of concentrate may cause nausea and vomiting. LD₅₀ (rat) > 3000 mg/kg for tebuconazole.

Skin: Low acute toxicity. LD₅₀ (rat) > 5000 mg/kg for tebuconazole. Slightly irritating, but not a skin sensitiser.

Eye: The concentrate may cause mild irritation of the eyes.

Inhalation: Not a likely route of exposure when handling the concentrate. When applying the product as a spray, avoid breathing in spray mist. LC₅₀ (rat) > 2.5 mg/L/4hr (no deaths) for a similar formulation.

Chronic toxicity:

Evidence from animal studies indicates that repeated or prolonged exposure to Tebuconazole can result in developmental effects and is classified as 'having possible risk of harm to the unborn child'.

SECTION 11 TOXICOLOGICAL INFORMATION (Continued)

There is no evidence of mutagenic or genotoxic effects in a series of *in vitro* and *in vivo* mutagenicity studies.

SECTION 12 ECOLOGICAL INFORMATION

Environmental Toxicology: Low hazard to birds, earthworms and bees. Moderate toxicity to fish and aquatic organisms. Fish: Rainbow trout 96 hr LC₅₀ = 19.9 mg/L; Invertebrates *Daphnia magna* 48 hr EC₅₀ = 31.0 mg/L; fresh water algae 48 hr EC₅₀ = 3.8 mg/L (*Selenastrum capricornutum*) and 15.2 mg/L (*Desmodesmus subspicatus*). Birds LD₅₀ Japanese quail: > 2000 mg/kg, Bobwhite quail LC₅₀ = 1988 mg/kg; Bees: LD₅₀ = 83 µg/bee. Worms: LD₅₀ (*Eisenia foetida*) 1.38 mg/kg.

Environmental Properties: Tebuconazole has low mobility in soil. Tebuconazole is not readily degradable in laboratory soil studies, but under field conditions it degrades much more rapidly and does not accumulate. In animals, tebuconazole is excreted in urine and faeces and after 3 days elimination is almost complete. In plants the half life is approximately 12 days.

SECTION 13 DISPOSAL CONSIDERATIONS

Spills & Disposal: On site disposal of the concentrated product is not acceptable. Ideally, the product should be used for its intended purpose. Wear cotton overalls buttoned to the neck and wrist, washable hat, elbow-length PVC gloves. Keep material out of streams and sewers. Dispose of drummed wastes, including decontamination solution in accordance with the requirements of Local or State Waste Management Authorities. In addition, some local authorities hold periodic collections of unwanted chemicals (ChemClear®).

Disposal of empty containers: Triple or preferably pressure rinse containers before disposal. Add rinsings to tank mix. Do not dispose of undiluted chemicals on-site. If not recycling, break, crush, or puncture and deliver empty packaging for appropriate disposal to an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in compliance with relevant Local, State or Territory government regulations. DO NOT burn empty containers or product.

SECTION 14 TRANSPORT INFORMATION

Road & Rail Transport: This product is exempt from classification as a Dangerous Good in packs less than 3,000 kg or litres under the Australian Code for the Transport of Dangerous Goods by Road and Rail. For bulk shipments this product is a class 9, UN 3082. (See special provision AU01).

Marine and Air Transport: This product is classified as a Marine Pollutant according to International Maritime Dangerous Goods (IMDG) Code and the International Air transport Association (IATA). If transporting by sea or air the following Dangerous Goods Classification applies:-
UN 3082, Class 9 (Miscellaneous Dangerous Goods), Packing Group III, Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains Tebuconazole).
Hazchem code •3Z. Hazard Identification Number (HIN) 90.

SECTION 15 REGULATORY INFORMATION

Classified as a hazardous substance according to criteria of the Safe Work Australia. (Xn - harmful). Under the Standard for Uniform Scheduling of Medicines and Poisons (SUSMP), this product is a schedule 5 poison.

This product is registered under the Agricultural and Veterinary Chemicals Code Act 1994. Product Registration No. 67631.

Product is not classified as a Dangerous Good according to the ADG Code (7th Ed).

Requirements concerning special training:

Check State or Territory regulations that require people who use pesticides in their job or business to have training in the application of the materials.

SECTION 16 OTHER INFORMATION

Issue Date: 21 December 2012. Valid for 5 years. (First issue).

Key to abbreviations and acronyms used in this MSDS:

ADG Code: Australian Dangerous Goods Code (for the transport of Dangerous Goods by Road and Rail).

ASCC: Australian Safety & Compensation Council (formally known as the National Occupational Health & Safety Commission (NOHSC)).

Carcinogen: An agent which is responsible for the formation of a cancer.

Genotoxic: Capable of causing damage to genetic material, such as DNA.

Lacrimation: The production, secretion, and shedding of tears.

Lavage: A general term referring to cleaning or rinsing.

NOHSC: National Occupational Health and Safety Commission.

Pneumonitis: A general term that refers to inflammation of lung tissue.

PPE: Personal protective equipment.

Teratogen: An agent capable of causing abnormalities in a developing foetus.

TWA: The Time Weighted Average airborne concentration over an eight-hour working day, for a five day working week over an entire working life.

Safe Work Australia: Formally known as Australian Safety & Compensation Council (ASCC) which was formally known as the National Occupational Health & Safety Commission (NOHSC).

References

1. "Search Hazardous Substances". Safe Work Australia Council website. (2011).
2. "Approved Criteria for Classifying Hazardous Substances" 3rd Ed. NOHSC Australia. [NOHSC:1008 (2004)]. October 2004.
3. Standard for the Uniform Scheduling of Medicines and Poisons. No. 3. Medicines and Poisons Scheduling Secretariat. June 2012.

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.

End of MSDS