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


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

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

- **Local contamination:**
  In case of skin or eye contamination, treat as above under First Aid Measures.

- **Systemic poisoning:**
  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.
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/m³
The NOHSC exposure standard (TWA) for calcium carbonate is: 10 mg/m³

*Exposure standard – Time Weighted Average (TWA) 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):
- Tebuconazole: Log P<sub>ow</sub> = 3.7 at 20° C
- Triflumuron: Log P<sub>ow</sub> = 4.9 at 22° C
10. STABILITY AND REACTIVITY

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

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**
- LD₅₀ rat (female): 1700 mg/kg - tebuconazole active ingredient
- LD₅₀ rat (male): 4000 mg/kg - tebuconazole active ingredient
- LD₅₀ rat: > 5000 mg/kg - triflumuron active ingredient

**Dermal toxicity**
- LD₅₀ rat: > 5000 mg/kg - tebuconazole active ingredient
- LD₅₀ rat: > 5000 mg/kg - triflumuron active ingredient

**Inhalation toxicity**
- LC₅₀ rat (4 hour): > 5.1 mg/L (dust) – (tebuconazole)
- LC₅₀ rat (4 hour): > 1.55 mg/L (dust) – (triflumuron) - highest attainable concentration

**Skin irritation**
Slightly irritating (rabbit) - derived from ingredient data

**Irritation of mucous membranes**
Slightly irritating (rabbit) - derived from ingredient data

**Sensitisation**
Not a skin sensitisier (guinea pig) - derived from ingredient data

**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.
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.
14. TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN number</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Proper shipping name</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Class and Subsidiary Risk</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Packing Group</td>
<td>Not applicable</td>
</tr>
<tr>
<td>EPG</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Hazchem code</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Marine Pollutant</td>
<td>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.)</td>
</tr>
</tbody>
</table>

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