

## Section 1 - Identification of the Material and Supplier

**Chemical nature:** Triadimenol is an azole derivative.  
**Trade Name:** Patchwork Turf Fungicide  
**APVMA Code:** 66493  
**Product Use:** Agricultural fungicide for use as described on the product label.

**Amgrow Pty Ltd**

**Unit B2a, 3-29 Birnie Avenue. Lidcombe. NSW. 2141.**

[www.amgrow.com.au](http://www.amgrow.com.au)

**Phone: (02) 93951200**

**This version issued:** May 2020 and is valid for 5 years from this date.

**Poisons Information Centre: Phone 13 1126 from anywhere in Australia**

## Section 2 - Hazards Identification

### Statement of Hazardous Nature

This product is classified as: Xi, Irritating. T, Toxic. N, Dangerous to the environment. Hazardous according to the criteria of SWA.

Not a Dangerous Good according to Australian Dangerous Goods (ADG) Code, IATA or IMDG/IMSBC criteria.

**Risk Phrases:** R52, R61, R36/37/38. Harmful to aquatic organisms. May cause harm to the unborn child. Irritating to eyes, respiratory system and skin.

**Safety Phrases:** S23, S26, S28, S38, S45, S51, S24/25, S36/39. Do not breathe vapours or spray mists. In case of contact with eyes, rinse immediately with plenty of water and contact a doctor or Poisons Information Centre. After contact with skin, wash immediately with plenty of soap and water. In case of insufficient ventilation, wear suitable respiratory equipment. In case of accident or if you feel unwell, contact a doctor or Poisons Information Centre immediately (show this SDS where possible). Use only in well ventilated areas. Avoid contact with skin and eyes. Wear suitable protective clothing and eye/face protection.

**SUSMP Classification:** S6

**ADG Classification:** None allocated. Not a Dangerous Good according to Australian Dangerous Goods (ADG) Code, IATA or IMDG/IMSBC criteria.

**UN Number:** None allocated



**GHS Signal word:** DANGER

### HAZARD CATEGORY:

Acute Toxicity – Category 4

Reproductive Toxicity – Category 1B

Reproductive Toxicity – Effects on or via lactation

Hazardous to the aquatic environment (chronic) – Category 2

### HAZARD STATEMENT:

H302: Harmful if swallowed.

H360: May damage fertility or the unborn child.

## SAFETY DATA SHEET

H362: May cause harm to breast fed children.

H402: Harmful to aquatic life.

#### PREVENTION

P102: Keep out of reach of children.

P201: Obtain special instructions before use.

P202: Do not handle until all safety precautions have been read and understood.

P210: Keep away from heat, sparks, open flames and hot surfaces. - No smoking.

P261: Avoid breathing fumes, mists, vapours or spray.

P262: Do not get in eyes, on skin, or on clothing.

P264: Wash contacted areas thoroughly after handling.

P271: Use only outdoors or in a well ventilated area.

P273: Avoid release to the environment.

P280: Wear protective gloves, protective clothing and eye or face protection.

#### RESPONSE

P312: Call a POISON CENTRE or doctor if you feel unwell.

P362: Take off contaminated clothing and wash before reuse.

P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P302+P352: IF ON SKIN: Wash with plenty of soap and water.

P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P332+P313: If skin irritation occurs: Get medical advice.

P337+P313: If eye irritation persists: Get medical advice.

P370+P378: In case of fire, use carbon dioxide, dry chemical, foam, water fog.

#### STORAGE

P410: Protect from sunlight.

P402+P404: Store in a dry place. Store in a closed container.

P403+P235: Store in a well-ventilated place. Keep cool.

#### DISPOSAL

P501: Dispose of contents and containers as specified on the registered label.

---

### Emergency Overview

---

**Physical Description & Colour:** Pale amber/brown liquid.

**Odour:** Aromatic odour.

**Major Health Hazards:** may cause harm to unborn children, irritating to eyes, respiratory system and skin.

### Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc,%	TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )
Triadimenol	55219-65-3	250g/L	not set	not set
N-Methyl-2-pyrrolidone	872-50-4	602g/L	103	309
Other non hazardous ingredients	secret	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 SWA 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 may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated 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

#### 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 SDS with you when you call.

### SAFETY DATA SHEET

**Inhalation:** If irritation occurs, contact a Poisons Information Centre, or call a doctor. Remove source of contamination or move victim to fresh air. If breathing is difficult, oxygen may be beneficial if administered by trained personnel, preferably on a doctor's advice. In severe cases, symptoms of pulmonary oedema can be delayed up to 48 hours after exposure.

**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 15 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 product is swallowed or gets in mouth, do NOT induce vomiting; wash mouth with water and give some water to drink. If symptoms develop, or if in doubt contact a Poisons Information Centre or a doctor.

**Advice to Doctor:** Triadimenol is a triazole compound. There are no published human cases of poisoning. In animal experiments with very high doses, initial CNS excitation followed by sedation have been seen. Therapeutic measures: Basic aid, decontamination, symptomatic treatment.

Ingestion of N-methyl-2-pyrrolidone causes gastric disturbances such as nausea and vomiting. Treat symptoms.

## Section 5 - Fire Fighting Measures

**Fire and Explosion Hazards:** The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both), fire gases. There is little risk of an explosion from this product if commercial quantities are involved in a fire. Violent steam generation or eruption may occur upon application of direct water stream on hot liquids. Vapours from this product are heavier than air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures. They may also flash back considerable distances.

Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.

**Extinguishing Media:** In case of fire, use carbon dioxide, dry chemical, foam, water fog.

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

**Flash point:** 93°C

**Upper Flammability Limit:** 9.5%

**Lower Flammability Limit:** 1.3%

**Autoignition temperature:** 245°C

**Flammability Class:** Flammable Category 4 (GHS), C1 combustible (AS 1940)

## Section 6 - Accidental Release Measures

**Accidental release:** In the event of a major spill, prevent spillage from entering drains or water courses. Wear full protective clothing including eye/face protection. All skin areas should be covered. See below under Personal Protection regarding Australian Standards relating to personal protective equipment. Suitable materials for protective clothing include butyl rubber. Eye/face protective equipment should comprise as a minimum, protective goggles. If there is a significant chance that vapours or mists are likely to build up in the cleanup area, we recommend that you use a respirator. Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned below (section 8).

Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. If spill is too large or if absorbent material is not available, try to create a dike to stop material spreading or going into drains or waterways. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Recycle containers wherever possible after careful cleaning. Refer to product label for specific instructions. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Full details regarding disposal of used containers, spillage and unused material may be found on the label.

## SAFETY DATA SHEET

If there is any conflict between this SDS and the label, instructions on the label prevail. Ensure legality of disposal by consulting regulations prior to disposal. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

## 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 SDS 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:** Note that this product is GHS Flammable Class 4 and therefore, for Storage, meets the definition of Dangerous Goods. If you store large quantities (tonnes) of such products, we suggest that you consult your state's Dangerous Goods authority in order to clarify your obligations regarding their storage.

Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. 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 Controls and Personal Protection

The following Australian Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Occupational Protective Clothing: AS/NZS 4501 set 2008, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

SWA Exposure Limits	TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )
N-Methyl-2-pyrrolidone	103	309

The ADI for Triadimenol is set at 0.06mg/kg/day. The corresponding NOEL is set at 6.25mg/kg/day. ADI means Acceptable Daily Intake; NOEL means No-observable-effect-level. Data from Australian ADI List, June 2014.

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:** This product should only be used in a well ventilated area. If natural ventilation is inadequate, use of a fan is suggested.

**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:** There is no specific recommendation for any particular protective material type. butyl rubber.

**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, if practical, be provided near to where this product is being handled commercially.

## Section 9 - Physical and Chemical Properties:

<b>Physical Description &amp; colour:</b>	Pale amber/brown liquid.
<b>Odour:</b>	Aromatic odour.
<b>Boiling Point:</b>	Not available.
<b>Freezing/Melting Point:</b>	No specific data. Liquid at normal temperatures.
<b>Volatiles:</b>	No data.
<b>Vapour Pressure:</b>	0.1 kPa at 20°C
<b>Vapour Density:</b>	No data.
<b>Specific Gravity:</b>	1.09 at 20°C
<b>Water Solubility:</b>	Emulsifiable.

### SAFETY DATA SHEET



pH:	6.0-8.0 (1% in water)
Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	No data.
Coeff Oil/water Distribution:	3.08-3.28 (log P octanol/water)
Autoignition temp:	245°C

## 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 acids, strong bases, oxidising agents.

**Fire Decomposition:** Combustion forms carbon dioxide, and if incomplete, carbon monoxide and possibly smoke. Water is also formed. May form nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas in reducing atmospheres. May form hydrogen chloride gas, other compounds of chlorine. 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

### Local Effects:

**Target Organs:** There is no data to hand indicating any particular target organs.

N-methyl-2-pyrrolidone is a SWA Class 2 Reproductive risk, may cause harm to the unborn child.

### Potential Health Effects

**Inhalation: Short Term Exposure:** This product is an inhalation irritant. Symptoms may include headache, irritation of nose and throat and increased secretion of mucous in the nose and throat. Other symptoms may also become evident, but they should disappear after exposure has ceased if treatment is prompt. **Long Term Exposure:** No data for health effects associated with long term inhalation.

**Skin Contact: Short Term Exposure:** This product is a skin irritant. Symptoms may include itchiness and reddening of contacted skin. Other symptoms may also become evident, but if treated promptly, 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. 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.

### Carcinogen Status:

**SWA:** No significant ingredient is classified as carcinogenic by SWA.

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

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

### Classification of Hazardous Ingredients

Ingredient	Risk Phrases
N-methyl-2-pyrrolidone	Conc>=10%: T; R61; R36/37/38

### Triadimenol:

**Target Organs:** There is no data to hand indicating any particular target organs.

LD<sub>50</sub> Oral (Rat) 689 mg/kg in males 752 mg/kg in females

## SAFETY DATA SHEET

LD<sub>50</sub> Dermal (Rat) > 5000 mg/kg

LC<sub>50</sub> Inhal (Rat) > 1.56 mg/L

**Primary eye irritation in rabbit:** Slight irritation

**Dermal sensitization in guinea pigs:** core minimum; no effect

**Chronic studies:** Triadimenol has been evaluated in the following studies: Mutagenicity, Reproduction effects,

Teratology. All proved negative.

## Section 12 - Ecological Information

This product is harmful to aquatic organisms. This product is biodegradable. It will not accumulate in the soil or water or cause long term problems.

**Triadimenol:**

**Hydrolysis:** STABLE. Triadimenol in sterile aqueous buffer solutions showed no apparent degradation at either temperature or pH tested. Recovery was 97% greater after 32 days of incubation.

**Soil Surface Photolysis:** STABLE. Triadimenol appears to be stable to photolysis on the soil surface. Studies indicate that Triadimenol photodegrades with a half-life of 36 hours in distilled water and 17 hours in a photosensitized (acetone) solution.

**Aerobic Soil Metabolism:** STABLE. Studies indicate that Triadimenol has an estimated aerobic half-life of 8 to 9 months. Triadimenol reached a maximum level of 68% of that applied at 14°C in 71 days and declined slightly to 45.2% by day 238. Consequently, the anaerobic half-life is considerably greater than 8-9 months.

**Adsorption/Desorption:** Because of its low adsorption coefficients, Triadimenol is shown to have a low to moderate potential to bind to soil particles. Studies indicate that the adsorption coefficient, k, for Triadimenol ranged from 2.37 to 5.26. The k values for desorption ranged from 1.49 in a silty clay soil (0.49 ppm) to 9.12 in a loam soil (9.57 ppm).

Consequently, there is no correlation between adsorption and soil organic matter content. The highest degree of adsorption was observed with the loam soil, intermediate in organic matter content. Environmental fate data requirements have been satisfied with the exception of a field dissipation study.

**Ecological Characteristics:** Studies show that this chemical is practically non-toxic to birds, slightly toxic to fish and moderately toxic to aquatic invertebrates. It is unlikely that the seed treatment use of Triadimenol will affect any terrestrial or aquatic animals. Chronic effects are unlikely due to the low use rates and because the seed treatment use requires incorporation of seeds into the soil. For the above reasons it is also unlikely that this use will affect any endangered species.

**Birds:** Oral LD<sub>50</sub> for bobwhite quail > 2000 mg/kg

**Fish:** LC<sub>50</sub> (96hr) for golden orfe 17.4-27.3, rainbow trout 14-23.5, bluegill sunfish 15 mg/L

**Bees:** nontoxic to honeybees

**Worms:** LC<sub>50</sub> for *Eisenia foetida* 772 mg/kg dry soil

**Daphnia:** LC<sub>50</sub> (48hr) 51 mg/L

**Algae:** ErC<sub>50</sub> for *Scenedesmus subspicatus* 3.7 mg/L

## Section 13 - Disposal Considerations

**Disposal:** Special help is available for the disposal of Agricultural Chemicals. The product label will give general advice regarding disposal of small quantities, and how to cleanse containers. However, for help with the collection of unwanted rural chemicals, contact ChemClear 1800 008 182 <http://www.chemclear.com.au/> and for help with the disposal of empty drums, contact DrumMuster <http://www.drummuster.com.au/> where you will find contact details for your area.

## Section 14 - Transport Information

**UN Number:** This product is not classified as a Dangerous Good by ADG, IATA or IMDG/IMSBC criteria. No special transport conditions are necessary unless required by other regulations.

## Section 15 - Regulatory Information

**AICS:** All of the significant ingredients in this formulation are compliant with NICNAS regulations. The following ingredients: Triadimenol, N-Methyl-2-pyrrolidone, are mentioned in the SUSMP.

### SAFETY DATA SHEET

**Section 16 - Other Information**

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

**Acronyms:**

<b>ADG Code</b>	Australian Code for the Transport of Dangerous Goods by Road and Rail (7 <sup>th</sup> edition)
<b>AICS</b>	Australian Inventory of Chemical Substances
<b>SWA</b>	Safe Work Australia, formerly ASCC and NOHSC
<b>CAS number</b>	Chemical Abstracts Service Registry Number
<b>Hazchem Code</b>	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
<b>IARC</b>	International Agency for Research on Cancer
<b>NOS</b>	Not otherwise specified
<b>NTP</b>	National Toxicology Program (USA)
<b>R-Phrase</b>	Risk Phrase
<b>SUSMP</b>	Standard for the Uniform Scheduling of Medicines & Poisons
<b>UN Number</b>	United Nations Number

THIS SDS 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 MUST REVIEW THIS SDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE.

IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS

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.

Please read all labels carefully before using product.

This SDS is prepared in accord with the SWA document "Preparation of Safety Data Sheets for Hazardous Chemicals - Code of Practice" (December 2011)  
Copyright © Amgrow Pty Ltd. March 2020.

**SAFETY DATA SHEET**