



SAFETY DATA SHEET

Section 1. Identification of the material and the supplier

Product: **CITADEL FUNGICIDE**
Chemical name of active β -(4-chlorophenoxy)- α -(1,1-dimethylethyl)-1H-1,2,4-triazole-1ethanol
Product Use: Fungicide
Restriction of Use: Refer to Section 15

New Zealand Supplier: ADAMA New Zealand Ltd
Address: Level 1/93 Bolt Road
Tahunanui, 7011, Nelson
Telephone: +64 3 543 8275
Fax Number: +64 3 543 8274

Emergency Telephone: 0800 764 766 (National Poison Centre)

Date of SDS Preparation: 3 September 2018

Section 2. Hazards Identification

This substance is hazardous according to the Hazardous Substances (Classification) Notice 2017

EPA Approval No: HSR002476

Pictograms



Toxic



Chronic



Ecotoxic

Signal Word: **DANGER**

HSNO Classification	Hazard Code	Hazard Statement	GHS Category
6.1D (oral)	H302	Harmful if swallowed.	Acute Tox. 4
6.4A	H319	Causes serious eye irritation.	Eye Irrit. 2A
6.8A	H360	May damage fertility or the unborn child.	Repr. 1A/Repr. 1B
6.9A	H372	Causes damage to organs through prolonged or repeated exposure.	STOT RE 1
9.1B	H411	Toxic to aquatic life with long lasting effects.	Aquatic Chronic 2
9.3C	H433	Harmful to terrestrial vertebrates.	

Prevention Code	Prevention Statement
P102	Keep out of reach of children.
P103	Read label before use.
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe fume, mist, vapours and spray.

P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective clothing as detailed in Section 8.
P281	Use personal protective equipment as required.

Response Code	Response Statement
P101	If medical advice is needed, have product container or label at hand.
P314	Get medical advice/attention if you feel unwell.
P330	Rinse mouth.
P391	Collect spillage.
P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P305 + P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P337 + P313	If eye irritation persists: Get medical advice/attention.

Storage Code	Storage Statement
P405	Store locked up.

Disposal Code	Disposal Statement
P501	Wherever possible completely use material by using according to label instructions. Dispose of unwanted product and wastes from spillages as hazardous substances in accordance with local and national regulations using a licensed waste disposal company. Triple rinse containers and add rinsate to spray tank before puncturing and offering for recycling or landfill. Do not allow product to enter waterways. Do not burn product or container.

Section 3. Composition / Information on Ingredients

Ingredients	Value	CAS NUMBER.
Triadimenol	250g/l	55219-65-3
N-Methyl-2-pyrrolidone	Approx. 400g/l	872-50-4
Other ingredients not contributing to the overall classification of the substance or non-hazardous	To balance	NA

Section 4. First Aid Measures

Routes of Exposure:

If in Eyes	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
If on Skin	Take off contaminated clothing and wash before re-use. Wash off immediately with soap and plenty of water. If skin irritation occurs: Get medical advice/attention.
If Swallowed	Wash out mouth with plenty of water. Get medical attention. Never give anything by mouth to an unconscious person. Call a POISON CENTER or doctor/physician if you feel unwell.
If Inhaled	Remove person to fresh air. Remove contaminated clothing and loosen remaining clothing. Allow person to assume most comfortable position and keep warm. Keep at rest until fully recovered. Get medical advice if breathing becomes difficult.

Most important symptoms and effects, both acute and delayed

Symptoms:

Ingestion:	Harmful if swallowed.
Skin:	Not applicable.
Inhalation:	Not applicable.
Eyes:	Causes severe eye irritation.
Chronic:	May damage fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure.

Notes to physician: There is no specific antidote. Treat symptomatically and give supportive therapy. If ingested perform gastric lavage and administer activated charcoal.

Section 5. Fire Fighting Measures

Hazard Type	Non Flammable.
Hazardous thermal (de)composition products	CO, Co ₂ , NOX, HCl and Chlorides
Suitable Extinguishing media	Water spray, fog or regular foam.
Precautions for firefighters and special protective clothing	Wear proper protective equipment. Self-contained breathing apparatus. Fight fires from protected location. Dike fire control water for later disposal.
HAZCHEM CODE	3Z

Section 6. Accidental Release Measures

Wear full protective clothing as detailed in Section 8. Evacuate area from unnecessary personnel.

Environmental precautions

Do not allow into any sewer, on the ground or into any body of water. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

Methods and material for containment and cleaning up

In the event of minor spillage. Absorb remainder in sand or other inert material. Use appropriate container to avoid environmental contamination. In the event of major spillage: Collect and contain as much free liquid as possible. Dike spills using absorbent or impervious materials such as sand or clay for later disposal. Dispose of in an authorised waste collecting point.

Section 7. Handling and Storage

Precautions for Handling:

- Read label before use.
- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Do not breathe fumes, mist, vapours and spray.
- Wash hands thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Avoid release to the environment.
- Wear protective clothing as detailed in Section 8.
- Use personal protective equipment as required.

Precautions for Storage:

- Store away from incompatible materials listed in Section 10.
- Keep away from children.

- Keep only in the original container.
- Store in the original, unopened container in a cool, dry place, out of direct sunlight and away from sources of ignition, stockfeed or foodstuffs.
- As a Class 9 Substance with Ecotoxicity Classifications, storage of CITADEL Fungicide must be carried out in such a manner as to prevent contamination of waterways. It is recommended that The New Zealand Standard for the Management of Agrichemicals (NZS 8409) is followed. See Safety Data Sheet for further information.

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

Substance	TWA		STEL	
	ppm	mg/m ³	ppm	mg/m ³
1-Methyl-2-pyrrolidone (skin) [872-50-4]	25	103	75	309

Workplace Exposure Standard – Time Weighted Average (WES-TWA). The time-weighted average exposure standard designed to protect the worker from the effects of long-term exposure. Workplace Exposure Standard – Short-Term Exposure Limit (WESSTEL). The 15-minute average exposure standard. Applies to any 15- Minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both the short-term and time-weighted average exposures apply. Workplace Exposure Standards and Biological Exposure Indices NOV 2017 9TH EDITION.

Engineering Controls

Ensure adequate ventilation.

Personal Protection Equipment



Eyes	Safety goggles or Chemical goggles.
Hands and Skin	Wear chemical resistant gloves, suitable protective clothing and boots.
Respiratory	During spraying wear suitable respiratory equipment.
General	When handling do not eat, drink or smoke. Wash hands thoroughly after handling. Wash clothing separately before re-use.

Section 9 Physical and Chemical Properties

Appearance	Tan - clear liquid
Odour	Characteristic
Odour Threshold	Not applicable
pH	6.10 (1% solution)
Boiling Point	Not applicable
Melting Point	Triadimenol: 110.5 – 126.5°C
Flash Point	118°C
Flammability	Not flammable
Upper and Lower Exposure Limits	1.3 – 9.5% (N-Methyl-2-pyrrolidone)
Vapour Pressure	Triadimenol: 5.6x10 ⁻⁷ Pa at a temperature of 25°C 2.8x10 ⁻⁷ Pa at a temperature of 20°C
Specific Gravity	1.077-1.088
Bulk Density	Not applicable
Relative Density	Not applicable
Solubility in water	Triadimenol: 73.1 g/l at a temperature of 20°C
Auto-ignition Temperature	Not applicable
Octanol/water partition coefficient	Triadimenol: log Pow = 3.2

Product Name: CITADEL Fungicide
Date of SDS: 3 September 2018

Issued by: Technical Compliance Consultants (NZ) Ltd
Tel: 64 9 475 5240 www.techcomp.co.nz

Section 10. Stability and Reactivity

Stability of Substance	This product is stable under normal conditions.
Conditions to Avoid	Protect from (sun) light, open flame and sources of heat. Decomposes upon heating.
Incompatible Materials	Avoid contact with: strong bases and strong acids.
Hazardous Decomposition Products	CO, Co ₂ , NOX, HCl and Chlorides.

Section 11 Toxicological Information

Acute Effects:

Swallowed	Harmful if swallowed. LD50 (rat)= 1483 mg/kg
Dermal	Not applicable = LD50 (rabbit)>2,000 mg/kg
Inhalation	Not applicable = LC50 (rat) > 5.3 mg/L (4 hours)
Eye	Causes severe eye irritation.
Skin	Not applicable

Chronic Effects:

Carcinogenicity	Not applicable.
Reproductive Toxicity	May damage fertility or the unborn child.
Germ Cell Mutagenicity	Not applicable.
Aspiration	Not applicable.
STOT/SE	Not applicable.
STOT/RE	Causes damage to organs through prolonged or repeated exposure.

Section 12. Ecotoxicological Information

HSNO Classes: 9.1B = Very toxic to aquatic life.
9.3C = Harmful to terrestrial vertebrates.

Persistence and degradability	No data available
Bioaccumulation	No data available
Mobility in Soil	No data available
Other adverse effects	No data available

Mobility: Triadimenol: Not mobile (soil)
Persistence/degradability: Triadimenol: Half-life time (t_{1/2}) = 112-472 days

Ecological effects information:

96 H-LC50 – Rainbow trout [mg/l]: 3.47
48 H-EC50 – Daphnia magna [mg/l]: 8.5
72 H-EbC50 Algae [mg/l]: 18.5
ErC50 Algae [mg/l]: 160

Section 13. Disposal Considerations

Disposal Method: Dispose of this product only by using according to the label or at an approved landfill. Container Disposal: Triple rinse container and add rinsate to spray tank. Burn in an appropriate incinerator, if circumstances such as wind direction permit. Otherwise crush or puncture and bury in a suitable landfill, or if appropriate, recycle.

Precautions: Do not allow product to enter waterways.

Disposal methods to avoid: Do not allow product to enter waterways.

Section 14 Transport Information**This product is classified as a Dangerous Good for transport in NZ; NZS 5433:2012****Road and Rail Transport**

UN No: 3082
 Class-primary 9
 Packing Group III
 Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Triadimenol)

Air Transport

UN No: 3082
 Class-primary 9
 Packing Group III
 Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Triadimenol)

Marine Transport

UN No: 3082
 Class-primary 9
 Packing Group III
 Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Triadimenol)
 Marine Pollutant: Yes

Special Provisions:

If the product's individual container is below 5L/kg, it can be transported as a non-DG as long as the product packaging is still labelled as per DG requirements and the driver is given safety information in accordance with Chapter 3.4 of the UNRTDG.

Section 15 Regulatory Information

EPA Approval Code: HSR002476
 HSNO Classification: 6.1D(oral), 6.4A, 6.8A, 6.9A, 9.1B, 9.3C

HSW (HS) Regulations 2017 and EPA Notices	Trigger Quantity
Certified Handlers	Not required
Location Certificate	Not required
Tracking Trigger Quantities	Not required
Spray Records	3 Litres or more within a 24 hour period
Signage Trigger Quantities	1000L(9.1B)
Emergency Response Plan	1000L(9.1B)
Secondary Containment	1000L(9.1B)
HSNO Additional Controls (Restrictions of use)	
77A	This substance must not be applied onto or into water.
Hazardous Property Controls Notice 2017	
HPC Notice Part 4 Clause 47	Equipment for class 9 substances must be appropriate
HPC Notice Part 4 Clause 48	Records of application of class 9 pesticides and plant growth regulators
ACVM Act and Regulations	
Registered pursuant to the ACVM Act 1997, See www.foodsafety.govt.nz for registration	No. P7518

conditions	
For all further controls	Refer to EPA website (www.epa.govt.nz) for controls document - HSR002476

Section 16 Other Information

Glossary

EC50	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority
HSNO	Hazardous Substances and New Organisms.
LC50	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD50	Lethal dose to kill 50% of test animals/organisms.
LEL	Lower explosive level.
OSHA	American Occupational Safety and Health Administration.
TEL	Tolerable Exposure Limit.
TLV	Threshold Limit Value-an exposure limit set by responsible authority.
UEL	Upper Explosive Level
WES	Workplace Exposure Limit

References:

1. EPA Hazardous Substances (Safety Data Sheets) Notice 2017
2. Workplace Exposure Standards and Biological Exposure Indices Nov 2017 edition.
3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
4. Transport of Dangerous goods on land NZS 5433:2012
5. HSW (Hazardous Substances) Regulations 2017

Disclaimer

This document has been prepared by TCC (NZ) Ltd and serves as the suppliers Safety Data Sheet ('SDS'). It is based on information concerning the product which has been provided to TCC (NZ) Ltd or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer. While TCC (NZ) have taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, TCC (NZ) Ltd accept no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS

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Please contact the Adama, if further information is required.

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