PROPICONAZOLE 250 EC SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: **PROPICONAZOLE 250 EC**
Other identifier: No other identifier
Recommended use: Fungicide
Restrictions on use: Agriculture

Supplier: **Universal Crop Protection (Pty) Ltd**
Co. Reg. No.: 1993/008184/07
PO Box 801,
Kempton Park, 1620, South Africa
Telephone: (011) 396 2233
Fax: (011) 396 4666
Website: www.villacrop.co.za

Emergency telephone numbers:
24 Hr Transport / Spill Emergency no:
(Hazcall24) +27 86 044 4411
(Client: Villa Crop Protection)
Griffon Poison Information Centre: +27 82 446 8946
(Client: Villa Crop Protection)
Poisoning:
Griffon Poison Information Centre: +27 82 446 8946
Poisons Information Centre: +27 861 555 777

2. HAZARDS IDENTIFICATION

UN GHS, Regulation EC 1272/2008 [EU-GHS/CLP] EU & SANS 10234:2008		
Hazard classes	**Hazard categories**	**H-statements**
Health		
Oral	Acute Toxicity 4	H302
Aspiration	Asp. Tox. 1	H304
Dermal	Skin Sens. 1 Skin Irrit. 2	H317 H315
Eye	Eye Dam. 1	H318
Mutagenicity	Muta. 1B	H340
Carcinogenicity	Carc. 1B	H350
Reproductive	Repr. 1B	H360D
Environment		
Aquatic acute	Aquatic acute 1	H400
Aquatic chronic	Aquatic chronic 1	H410

The most important adverse effects:
Physiochemical effects: None known

Human health effects:

Harmful if swallowed (Acute Tox. 4)
May be fatal if swallowed and enters airways (Asp. Tox 1)
Causes skin irritation (Skin Irrit. 2)
May cause an allergic skin reaction (Skin Sens. 1)
Causes serious eye damage. (Eye Dam. 1)
May cause genetic defects (Muta. 1B)
May cause cancer (Carc. 1B)
May damage fertility or the unborn child. (Repr. 1B)

Label elements:

Signal word: Danger

Hazard statements:
H302: Harmful if swallowed.
H304: May be fatal if swallowed and enters airways.
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H318: Causes serious eye damage.
H340: May cause genetic effects.
H350: May cause cancer.
H360D: May damage fertility or the unborn child.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.

Precautionary statements:
P202: Do not handle until all safety precautions have been read and understood.
P264: Wash hands and eyes thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P273: Avoid release to the environment.
P280: Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.

P301+P310: IF SWALLOWED: Immediately call a POISON CENTER.
P302+P352: IF ON SKIN: Wash with plenty of water and non-abrasive soap.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P308/313: If exposed or concerned: Get medical attention.
P331: Do NOT induce vomiting.
P332+P313: If skin irritation occurs: get medical advice.
P333/313: If skin irritation or rash occurs: get medical advice.
P362+P364: Take off contaminated clothing and wash it before reuse.
P391: Collect spillage.
P405: Store locked up.
P501: Dispose of contents/container in accordance with local regulations.

Other hazards:
None known.

Toxicity:
Classification according to GHS: Category 4
Classification according to WHO: Group II
Classification according to GPIC: Category II

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance / Mixture: Mixture

Composition:

Chemical name	CAS	Conc. (m/v %)	Classification EC 1272/2008
Propiconazole	60207-90-1	25 %	Acute Tox. 4 (H302) Skin Sens. 1 (H317) Repr. 1B (H360D) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Dodecylbenzene sulphonate	26264-06-2	<10 %	Acute Tox 4 (H302) Skin Irrit.2 (H315) Eye Dam. 1 (H318) Aquatic Chronic 4 (H413)
Ethoxylated fatty alcohol	78330-20-8	5 – 10%	Acute Tox. 4 (H302) Eye Dam. 1 (318)
Solvent 100	64742-95-6	>50%	Asp. Tox 1 (H304) Muta. 1B (H340) Carc. 1B (H350)

4. FIRST AID MEASURES

Remove the victim from the area of exposure. Wash off remaining material with plenty of water. In the event of any complaints or symptoms, avoid further exposure. Immediately consult a doctor.

Inhalation: Remove person from contaminated area to fresh air and assist breathing as needed. Seek medical attention if irritation occurs. Seek medical attention if you feel unwell after inhalation.
Skin: Remove contaminated clothing and shoes. Gently wipe off excess chemical. Wash skin gently and thoroughly with water and non-abrasive soap. Obtain medical attention if irritation persists.
Eyes: Flush eyes with clean water for at least 15 – 20 minutes. Lift eyelids to facilitate irrigation. If present, remove contact lenses after 5 minutes and continue rinsing. **Seek medical attention.**
Ingestion: Seek medical attention or call a poison control centre for treatment advice. **Do not induce vomiting due to the solvent.** Do not give anything by mouth to an unconscious person. If the person is alert, rinse mouth thoroughly with water.
Anticipated acute effects: None known.
Anticipated delayed effects: None known.
Most important symptoms / effects: None known.
Advice to physician: Treat symptomatically and supportively. The product contains solvent that may cause chemical pneumonitis if aspirated into lungs. Watch for delayed onset of pulmonary. If ingested perform gastric lavage and administer activated charcoal.

5. FIRE-FIGHTING MEASURES

Flammable: Not available
Suitable Extinguishing Media: Use carbon dioxide or dry chemical for small fires and water fog or foam for large fires.
Unsuitable Extinguishing Media: High volume water jet. Use a water jet only to cool heated containers.
Specific hazards:
Fire may produce harmful combustion products (traces of hydrogen cyanide and oxides of nitrogen and carbon). Combustible liquid.
Special fire-fighting procedures: Remove spectators from surrounding area. Isolate the fire area and evacuate all personnel downwind of the fire. Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Remain upwind of fire. Avoid inhaling hazardous vapours and fumes from burning materials. Remove container from fire area if possible and without risk. Do not use high volume water jet, due to contamination risk. Do not scatter the burning material. Water can be used to cool unaffected containers but must be contained for later disposal. Contain fire control agents for later disposal. Avoid pollution of waterways by run-off from the site.
Personal protective equipment: Wear NIOSH / MSHA approved self-contained breathing apparatus and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Avoid contact with eyes. Do not breathe in spray mist or dust / fumes / vapours. **Do not breathe in spray mist or vapours**. Ventilate area of spill or leak, especially in contained areas.
Protective equipment: Refer to Section 8 for personal protective equipment to be worn during containment and clean-up of a spill involving this product.
Emergency procedures: Alert firefighting personnel, evacuate unprotected personnel and animals.
Environmental Precautions: Prevent spilled product from entering sewers, waterways or ground water. This product is classified as very toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment. Any spillages or uncontrolled discharges into watercourses should be reported immediately to the police and the Department of Water / Environmental Affairs.
Methods and Materials for Containment: Contain spilt product by diking area with sand or earth.
Methods and Materials for Clean-up: Cover contained spill with an inert absorbent material such as sand, vermiculite, earth or other appropriate material. Vacuum, scoop, or sweep up material and place the material into a clean, dry, sealable container. Label containers with the contents and dispose of according to local regulations. Do not place spilt material back in original container. Do not re-use spilt material. Collect washings and add to the drums already collected. Do not flush spilt material or washings into drains or waterways. To decontaminate the spill area, tools and equipment, wash with water and suitable detergent. See section 13 for disposal considerations

7. HANDLING AND STORAGE

Handling:
Precautions for safe handling: Harmful if swallowed. Avoid contact with skin and eyes Ensure adequate ventilation during handling and use. Do not inhale spray mist or vapours. Do not handle broken packages without protective equipment. Immediately clean up spills that occur during handling. Keep containers closed when not in use. In the case of contact with the product refer to First Aid Measures – Section 4.
General occupational hygiene: Practice good hygiene when using this material. Wash hands before eating, drinking, chewing gum, smoking, using the toilet or applying cosmetics. Worker should shower at the end of each workday. Launder all clothing before it is re-used.
Storage:
Conditions for safe storage: Keep under lock and key and out of reach of unauthorised persons, children and animals. Store in its original, labelled container, tightly closed in an isolated, dry, cool and well-ventilated area. Do not store near heat, open flame, sources of ignition or hot surfaces. Not to be stored next to foodstuffs, feed and water supplies. Avoid cross contamination with other pesticides and fertilisers.
Incompatible substances and mixtures: Refer to product label.
Packaging material: Fluorinated plastic containers.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration: No occupational exposure limits have been determined for the significant ingredients in this product.

Engineering Controls:
It is essential to provide adequate ventilation. The measures appropriate for a particular worksite depend on how this material is used and on the extent of exposure. Local Exhaust: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OELs or other specified exposure limits. Local exhaust ventilation is preferred. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire and other applicable regulations.
Personal Protective Equipment:
Respiratory Protection: For most well-ventilated conditions, no respiratory protection should be needed. If used in a poorly ventilated area (airborne concentrations exceed exposure limits), use a NIOSH approved, air-purifying respirator with cartridges / canisters approved for organic vapours.
Hand Protection: The use of chemically protective impervious gloves is recommended to prevent against skin contact.
Eye Protection: The use of chemical safety goggles is recommended to prevent against eye contact. Contact lenses are not protective eye devices.
Skin and Body Protection: Employees must wear appropriate protective impervious clothing, rubber boots, hat and equipment to prevent repeated or prolonged skin contact with this substance. Do not wear leather clothing.
Emergency eyewash: Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear, non-viscous yellow liquid.
Odour: Characteristic aromatic odour.
Odour threshold: Not available
pH (5% aqueous emulsion): 5.4
Melting point: Not available.
Freezing Point: Not available.
Boiling Point: Not available.
Flash Point: Not available.
Flammability: No information.
Upper / lower explosion limits: Not available.
Vapour Pressure (mm Hg): Not available.
Relative Vapour Density: Not available.
Density / Relative density: 0.971 g/mℓ
Solubility: Emulsifies in water.
n-octanol / water partition coefficient: Not available.
Auto-ignition temperature: Not available.
Decomposition temperature: Not available.
Viscosity: Not available

10. STABILITY AND REACTIVITY

Chemical stability: The product is stable for two years at ambient temperature and pressure, under normal storage and handling conditions. Avoid storage under extreme temperatures and conditions. Store below 50 °C, preferably below 30 °C, and not for prolonged periods in direct sunlight.
Reactivity: None known.
Possibility of hazardous reactions: Unlikely to occur.
Conditions to avoid: Extreme heat or exposure to flames
Incompatible materials: Strong oxidizers, strong bases, strong reducing agents.
Hazardous decomposition products: Alcohols. carbon monoxide and carbon dioxide may form under burning conditions or with incomplete combustion.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:
Calculated according to GHS
Oral LD_{50}: (24h) 1903 mg/kg (rat)
Dermal LD_{50}: Not classified.
Inhalation LC_{50}: Not classified.
Skin Irritation / Corrosion: Causes skin irritation.
Eye Damage / Irritation: Causes serious eye damage.
Skin Sensitization: May cause an allergic skin reaction.
Respiratory Sensitization: Not available.
Reproductive cell mutagenicity: May cause genetic defects.
Carcinogenicity: May cause cancer.
Reproductive toxicity: May damage fertility or harm the unborn child.

Specific target organ toxicity – single exposure: Not available.
Specific target organ toxicity – repeated exposure: Not available.
Aspiration hazard: May be fatal if swallowed and enters airways.
Chronic Effects: Extensive tests on laboratory mammals at high doses, an increased liver tumour incidence in mice was observed. However, this effect was considered specific to the species studied and not relevant to humans.
POTENTIAL ADVERSE EFFECTS:
Inhalation: Not available.
Ingestion: Not available.
Other information: Not available.

12. ECOLOGICAL INFORMATION

This product is considered a marine pollutant.

ECOTOXICITY DATA:
Active ingredient / inert name

Fish:		
LC_{50} (96 h)	Carp	6.8 mg/ℓ
	Rainbow Trout	4.3 mg/ℓ
	Golden orfe	5.1 mg/ℓ
	Sprotte	2.6 mg/ℓ
Daphnia:		
EC_{50} (48 h)		10.2 mg/ℓ
Algae:		
E_rC_{50} (72 h)	*Pseudokirchneriella subcapitata*	9.0 mg/ℓ
Birds:		
Acute oral LD_{50}	Japanese quail	2220 mg/kg
	Bobwhite quail	2830 mg/kg
	Mallard ducks	>2510 mg/kg
	Pekin ducks	>6000 mg/kg
Dietary LC_{50} (8d)	Japanese quail & Pekin ducks	>10 000 mg/kg diet
	Mallard ducks & Bobwhite quail	>5620 mg/kg diet
Bees:		
LD_{50} contact		46 µg/bee
LD_{50} oral		>203 µg/bee
Worms:		
LC_{50}	*Eisenia fetida*	686 mg/kg

ENVIRONMENTAL EFFECTS (indicate if this is only for the active ingredient)
Based on information for the active ingredient(s)
Plants: Degradation proceeds through hydroxylation of the n-propyl side chain and deketalisation of the dioxolan ring. After cleavage of triazole, triazole-alanine is formed as the main metabolite. Metabolites are conjugated mostly as glucosides.
Persistence and degradability: The main degradation pathways are hydroxylation of the propyl side chain and the dioxolane ring, leading finally to formation of 1,2,4-triazoles.
Bio-accumulative potential: Not determined.
Mobility in soil: Soil DT_{50} (aerobic, 20-25℃, lab.) 29-128 d; (field) 5-148 d. Immobile in soil; normalised $_{Koc\ (ads)}$ 950 ml/g. DT_{50} from water 5.5-6.4 d (sorption to sediment), from sediment 485-636 d.
Other adverse effects: Not determined

13. DISPOSAL CONSIDERATIONS

Waste: Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be reused or re-processed. Never pour untreated waste or surplus product into public sewers or where there is any danger of run-off or seepage into water systems. Do not contaminate rivers, dams or any other water sources with the product or used containers. Comply with local legislation applying to waste disposal. The product may be taken to a registered waste disposal site or incineration plant.
Container: TRIPLE RINSE THE EMPTY CONTAINER AS FOLLOWS: Invert the empty container over the spray or mixing tank and drain for at least 30 seconds after the flow has slowed down to dripping. Thereafter rinse the empty container three times in succession with one quarter of the container volume fresh water and decant the rinsate into the spray or mixing tank. Puncture the triple rinsed container and dispose of via an approved collector or recycler (www.croplife.co.za). Do not bury, burn or donate the container to any other parties that may use it as a container for food or beverages.

14. TRANSPORT INFORMATION

UN Number: 3082
Road Transport ADR / ORD:
Class: 9

Packaging group: III
UN Proper Shipping Name: Environmentally hazardous substance, Liquid, N.O.S. (Propiconazole 250 g/ℓ)

Maritime Transport IMDG / IMO:
Class: 9
Packaging group: III
UN Proper Shipping Name: Environmentally hazardous substance, Liquid, N.O.S. (Propiconazole 250 g/ℓ)

Marine pollutant (Y/N): Yes

Air Transport IATA / ICAO:
Class: 9
Packaging group: III
UN Proper Shipping Name: Environmentally hazardous substance, Liquid, N.O.S. (Propiconazole 250 g/ℓ)

Special / Environmental Precautions: Wedge drums tightly to avoid movement.

Transport in bulk: Refer to MARPOL 73/78, Annex II and the IBC code.

15. REGULATORY INFORMATION

Safety, health and environmental regulations / legislation for the mixture:
OHSA 1993 Regulations for Hazardous Chemical Substances.

Relevant information regarding restrictions: None.

EU regulation: Regulation EC1272/2008 (EU-GHS/CLP)

Other national regulations: None.

Chemical Safety Assessment carried out? No

16. OTHER INFORMATION

Packaging: Packed in 200, 500, 750 ml, 1, 1.5, 2.5, 5, 10, 15, 20, 25 and 50 litres fluorinated plastic containers labelled according to South African regulations and guidelines.

Other hazard statements, abbreviations and explanations:
H315: Causes skin irritation.
H413: May cause long lasting harmful effects to aquatic life.
IATA: International Air Transport Association.
IBC: International Bulk Chemical.
ICAO: International Civil Aviation Organization.
IMDG: International Maritime Dangerous Goods
IMO: International Maritime Organization.
LD_{50} value: The median lethal dose or the amount of a toxic agent that is enough to kill 50 percent of a population within a certain period of time.
OEL/RL: Occupational exposure limit-recommended limit.
TWA: Time-weighted average – The average exposure over a specified period, usually a nominal eight hours.
ST/STEL: Short-term exposure limits.
Disclaimer: The information on this sheet is not a specification; it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage and use of the product. It is not applicable to unusual or non-standard uses of the product nor where instructions or recommendations are not followed. All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors and omissions or the consequence thereof.

END OF DOCUMENT

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For detailed information on revisions, contact the Registration holder.