

# UNIVERSAL PROPICONAZOLE 250EC MATERIAL SAFETY DATA SHEET

## 1. PRODUCT & COMPANY IDENTIFICATION

**Product Name:** PROPICONAZOLE 250EC  
 Fungicide  
**UN No.:** 1993  
**Supplier:** Universal Crop Protection (Pty) Ltd.  
**Co. Reg. No.:** 1983/008184/07  
 PO Box 801,  
 Kempton Park, 1620, South Africa  
**Telephone:** (011) 396 2233  
**Fax:** (011) 396 4666  
**Website:** [www.villacrop.co.za](http://www.villacrop.co.za)

**Emergency telephone:** +27 11 396 2233  
 (08:00 – 16:30)

### 24 Hr Emergency Numbers:

Bateleur: +27 83 1233 911 or  
 (Client: Villa Crop Protection) +27 860 333 911

### In case of Poisoning:

Western Cape Poisons Tel. Service +27 861 555 777  
 Griffon Poison Information Centre +27 82 446 8946  
 Tygerberg Hospital +27 21 931 6129

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

**Common Name:** Propiconazole  
**Chemical Name:** (±)-1-[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxolan-2-ylmethyl]-1H-1,2,4-triazole (IUPAC)  
**CAS No.:** 60207-90-1  
**Chemical family:** azole  
**Chemical formula:** C<sub>15</sub>H<sub>17</sub>Cl<sub>2</sub>N<sub>3</sub>O<sub>2</sub>  
**Molecular weight:** 342.2  
**Use:** Systemic foliar fungicide with protective and curative action, with translocation acropetally in the xylem. Steroid demethylation (ergosterol biosynthesis) inhibitor.  
**Formulation:** Propiconazole 250 g/l  
 Emulsifiable Concentrate  
**Hazardous ingredients:** Propiconazole & xylene  
**Symbol:** F, Xn  
**Indication of danger:** Flammable, Harmful if swallowed

## 3. HAZARD IDENTIFICATION

**Likely routes of exposure:** **Skin:** May cause slight irritation. It is not likely to be absorbed in harmful amounts. Not expected to be a skin sensitizer. Some individuals may develop an allergic response.

**Eye:** May irritate the eyes. Eye injury is not expected to occur.

**Inhalation:** Not a hazard under normal use conditions. Prolonged or repeated exposure may irritate the respiratory tract, the eyes and may cause headaches and dizziness. Inhalation of excessive amounts of spray mist may cause respiratory irritation.

**Swallowed:** Data suggests the product is slightly toxic if swallowed. Normal handling procedures is not expected to cause injury. If large amounts are swallowed and aspiration occurs, chemical pneumonitis may develop. Small amounts of product aspirated into the respiratory system during ingestion or vomiting, due to the solvent in product, may cause mild to severe pulmonary injury.

**Other Health Hazard Information:** Persons with preexisting dermatitis, respiratory disorders or an allergy history should take extra care in handling this product.

## 4. FIRST AID MEASURES AND PRECAUTIONS

**Inhalation:** If vapours or mists have been inhaled, and irritation has developed, remove the source of contamination or move victim to fresh air. The patient should be kept under observation and obtain medical attention if irritation persists.

**Skin contact:** Remove contaminated clothing, shoes and leather goods. Wash skin gently and thoroughly with cold water and nonabrasive soap. Obtain medical attention if irritation persists.

**Eye contact:** Immediately flush eyes with a stream of clean water for at least 20 minutes, holding the eyelid(s) open. Obtain medical attention if irritation persists.

**Ingestion: Do not induce vomiting due to the solvent.** Do not give anything by mouth. Obtain medical attention immediately. If the person is alert, rinse mouth thoroughly with water.

**Advice on treatment:** There is no specific antidote available. Treat symptomatically. 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

**Fire and explosion hazard:**

**Flash point:** 57 °C (Pensky-Martins Closed test)

Fire may produce harmful combustion products (traces of hydrogen cyanide and oxides of nitrogen and carbon). Combustible liquid.

**Extinguishing agents:** Extinguish fires with carbon dioxide, dry powder, or alcohol-resistant foam. Water spray can be used for cooling of unaffected stock, but avoid water coming in contact with the product. Use as little water as possible. Use spray or fog. Solid stream may cause spreading. Contain water used for fire fighting for

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later disposal. Avoid the accumulation of polluted run-off from the site.

**Firefighting:** Remove spectators from surrounding area. Isolate the fire area and evacuate downwind. Use a recommended extinguishing agent for the type of surrounding fire.

Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Contain fire control agents for later disposal. Avoid inhaling hazardous vapours and fumes from burning materials. Keep upwind.

Remove container from fire area if possible and without risk. Water can be used to cool unaffected containers but must be contained for later disposal.

Dyke fire control water for later disposal. Do not scatter the material. Avoid pollution of waterways.

Do not use high volume water jet, due to contamination risk. Contain water used for fire fighting for later disposal. Avoid the accumulation of polluted run-off from the site.

**Personal protective equipment:** Fire may produce harmful combustion products (traces of hydrogen cyanide and oxides of nitrogen and carbon). Fire fighters and others that may be exposed should wear full protective clothing and self-contained breathing apparatus.

## 6. ACCIDENTAL RELEASE MEASURES (SPILLAGE)

**Personal precautions:** Avoid contact with skin and eyes. Do not breathe in spray or fumes. For personal protection see Section 8.

**Environmental precautions:** Do not allow entering drains or watercourses. Spillage or uncontrolled discharges into water courses (or public waters) to be reported immediately to the Police and to the Department of Water/Environmental Affairs. Considered as Marine Pollutant.

**Occupational spill:** Do not touch-spilled material; stop leak if you can do it without risk. Keep out unprotected persons and animals.

**For spills:** Soak up with absorptive material such as damp earth or sand or other suitable non-combustible absorbent material. Place the material into a clean, dry container and cover for subsequent disposal. In situations where product comes in contact with water, contain contaminated water for later disposal. Prevent material from spreading by damming in with absorptive material. Do not flush spilled material into drains. Keep spectators away and upwind.

To decontaminate spill area, tools and equipment, wash with a suitable solution (i.e. organic solvent, detergent bleach or caustic). Add the solution to the drums already collected. Label drums with its content and dispose it in accordance with local regulations.

Open burning or dumping of this material is prohibited. Do not get water inside containers.

## 7. HANDLING AND STORAGE REQUIREMENTS

**Handling:** Do not use near source of sparks or open flame. Harmful in contact with skin and if swallowed. Irritating to eyes and skin. Avoid contact with eyes and skin, and inhalation of spray and vapour. Use with adequate ventilation. Wash hands before eating, drinking, chewing gum, smoking, or using the toilet. Operators should change and wash clothing daily. Remove clothing immediately if the pesticide gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. Do not apply directly to areas where surface water is present, or to intertidal areas below the mean high water mark. Water used to clean equipment must be disposed of correctly to avoid contamination.

**Storage:** Do not store near sources of sparks, flame or heat. Keep under lock and key and out of reach of unauthorized persons, children and animals. Store in its original labeled container in isolated, dry, cool and well-ventilated area. Not to be stored next to foodstuffs and water supplies.

Local regulations should be complied with.

## 8. EXPOSURE CONTROL / PERSONAL PROTECTION

It is essential to provide adequate ventilation. The measures appropriate for a particular work site depend on how this material is used and on the extent of exposure. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations.

### PERSONAL PROTECTIVE EQUIPMENT:

If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal protective equipment including approved respiratory protection.

**Respirator:** An approved respirator suitable for protection from mists of pesticides is adequate. Limitations of respirator use specified by the approved agency and the manufacturer must be observed.

**Clothing:** Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance.

**Gloves:** Employee must wear appropriate synthetic protective gloves to prevent contact with this substance.

**Eye protection:** The use of safety goggles is recommended.

**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.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Clear, non-viscous yellow liquid, with characteristic aromatic odour.

**Flammability:** Flammable.

**Flash point:** 57 °C.

**Explosion properties:** Not explosive.

**Corrosiveness:** Non-corrosive.

**Solubility:** Forms an emulsion in water.

**pH:** 5.4 of a 5 % aqueous emulsion.

**Density:** 0.971 g/ml

## 10. STABILITY AND REACTIVITY

**Stability:** Chemically and thermally stable. Decomposition at temperatures above 300 °C.

**Storage stability:** Stable for up to 2 years when stored in a dry, cool covered warehouse in original, well-labelled containers. Store at low temperature conditions, below 50°C, preferably below 30 °C and not for prolonged periods in direct sunlight.

**Conditions and Materials to Avoid:** Keep the product in a cool, dry place; at below 30 °C. Protect from sunlight, open flame and sources of heat. Avoid contact with strong acids, strong bases and strong oxidizing agents.

**Hazardous decomposition products:** Fire may produce harmful combustion products (traces of hydrogen cyanide and oxides of nitrogen and carbon).

## 11. TOXICOLOGICAL INFORMATION

**Acute oral LD<sub>50</sub>:**

*Technical* in rats: 1355 g/kg

*Formulation* in rats: For product of similar composition oral LD<sub>50</sub> is > 2 000 mg/kg in rats.

**Acute dermal LD<sub>50</sub>:** *Technical* in rats: > 2 000 mg/kg in rats

**Acute skin irritation:** Slight irritant.

**Acute eye irritation:** Slight irritant.

**Dermal sensitization:** Not expected to be a skin sensitizer. Individuals may develop an allergic response. Prolonged or repeated skin contact will defat the skin and may cause dermatitis.

**Inhalation:** Slight toxicity. Inhalation of excessive amounts may cause respiratory irritation.

**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.

**Mutagenicity:** Considered as non-mutagenic as per various tests.

**Reproductivity:** Various studies including two-year and two-generation rat studies concluded that no reproductive, fetal or embryonic parameters were affected.

**Teratogenicity:** No tetragenic or foetotoxic effects were observed at any doses administered orally to rats.

**Carcinogenicity:** In two-year feeding studies, the NOEL was established at 100 ppm. No tumours were observed in rats at any feeding level. EPA has classified **Propiconazole** as Group "C" for carcinogenicity – possible human carcinogen.

## 12. ECOLOGICAL INFORMATION

**Mobility, Degradability & Accumulation:** The soil movement and leaching potential of **Propiconazole** is limited. The half-life under field conditions ranged from 96 days in sandy loam to 575 days in silt loam.

In water, hydrolysis is not significant. **Propiconazole** is subjected to photolysis.

Animals rapidly metabolize **Propiconazole** to a wide variety of compounds, which are almost completely eliminated. No evidence for accumulation or retention of **Propiconazole** and its metabolites.

**ECOTOXICOLOGY:**

Non-toxic to birds. Toxic to fish. Not toxic to bees.

**Birds:**

Oral LD <sub>50</sub> :	Japanese quail:	2223 mg/kg
	Bobwhite quail:	2825 mg/kg
	Mallard ducks:	> 2510 mg/kg

**Fish:**

LC <sub>50</sub> (96 hours):	carp:	6,8 mg/l
	Rainbow trout:	5,3 mg/l
	<i>Poecilia reticulata</i> :	4,68 mg/l

**Daphnia:**

EC <sub>50</sub> (48 hours):	<i>Daphnia magna</i> :	2,89 mg/l
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**Bees:**

LD <sub>50</sub> (contact and oral):		> 100 µg/bee
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**Earthworm:**

Not toxic to *Lumbricus rebellus*.

LD <sub>50</sub> :	<i>Lampito mauritii</i> :	285,07 mg/kg dry wt of soil
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**Algae:**

EC <sub>50</sub> (72 hours):	<i>Chlorella vulgaris</i> :	8,87 µg/ml
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Under field conditions, not expected to have any significant impact.

## 13. DISPOSAL CONSIDERATION

**Pesticide disposal:** Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be reused or reprocessed. Never pour untreated waste or surplus products 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.

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**Container disposal:** Emptied containers retain vapour and product residues. Observe all labeled safeguards until container is destroyed.

**TRIPLE RINSE** empty containers in the following manner: Invert the empty container over the spray or mixing tank and allow draining for at least 30 seconds after the flow has slowed down to a drip. Thereafter rinse the container three times with a volume of water equal to a minimum of a third of that of the container. Add the rinsing to the contents of the spray tank before destroying the container in the prescribed manner.

Do not re-use the empty container for any other purpose but destroy it by perforation and flattening and bury in an approved dumpsite. Prevent contamination of food, feedstuffs, drinking water and eating utensils.

Comply with local legislation applying to waste disposal.

**Packaging:** Packed in 1, 5, 10, 20 and 25 litres fluorinated plastic containers and labeled according to South African regulations and guidelines.

**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 use of the product. It is not applicable to unusual or nonstandard 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.

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**END OF DOCUMENT**

**Compiled:** April 2003

**Reviewed:** May 2017

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## 14. TRANSPORT INFORMATION

**UN NUMBER:** 1993  
**Road Transport ADR/RID:**  
 Class: 3  
 Packaging group: III  
 Shipping name: **Flammable liquid, N.O.S. (Propiconazole 250 g/l)**

**Maritime Transport IMDG/IMO:**  
 Class: 3  
 Packing group: III  
 Shipping name: **Flammable liquid, N.O.S. (Propiconazole 250 g/l)**

**Considered a marine pollutant.**

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## 15. REGULATORY INFORMATION

**Symbol:** F, Xn  
**Indication of danger:** **Flammable; Harmful**  
**Risk phrase(s):**  
**R 10** **Flammable**  
**R 20/22** Harmful by inhalation and if swallowed.  
**R 36/37/38** Irritating to eyes, respiratory system and skin.  
**R 51** Toxic to aquatic organisms.  
**Safety phrases:**  
**S 1/2** Keep locked up and out of reach children.  
**S 13** Keep away from food, drink and animal feeding stuffs.  
**S 16** Keep away from sources of ignition – No smoking.  
**S 23** Do not breathe vapour/spray.  
**S 24/25** Avoid contact with skin and eyes.  
**S 36/37/39** Wear suitable protective clothing, gloves and eye/face protection.

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## 16. OTHER INFORMATION