

VILLA EXCALIBUR 200 EW

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF PRODUCT AND COMPANY

Product Name: EXCALIBUR 200 EW
 Fungicide
UN No. 1993
Supplier: Villa Crop Protection (Pty) Ltd.
 PO Box 10413
 Aston Manor, 1630, South Africa
Telephone: (011) 3962233
Fax: (011) 3964666
Website: www.villacrop.co.za

Emergency telephone numbers:

24 Hr Transport / Spill emergency no:

Envirosure. +27 31 205 4918
 (Hazcall24) +27 86 044 4411

(Client: Villa Crop Protection)

Griffon Poison Information Centre +27 82 446 8946

(Client: Villa Crop Protection)

Poisoning Emergency telephone numbers:

Griffon Poison Information Centre +27 82 446 8946

Poisons Information Centre +27 861 555 777

Villa Crop Protection Emergency number:

National Safety, Health and Environmental Manager:

+27 63 698 0668

2. COMPOSITION / INFORMATION ON INGREDIENTS

Common Name: Penconazole.
Chemical Name: 1-(2,4-dichloro-β-propylphenethyl)-1H-1,2,4-triazole (IUPAC).
CAS No.: 66246-88-6.
Chemical family: azole.
Chemical formula: C₁₃H₁₅Cl₂N₃.
Molecular weight: 284.2.
Use: An emulsion in water systemic fungicide with protective and curative action for the control of certain diseases on certain crops.
Formulation: Penconazole 200 g/l.
 Emulsion in Water.
Hazardous ingredients: Penconazole & Xylene as solvent
Symbol: F, Xi
Indication of danger: Flammable, Irritant.
Risk Phrases: R10, R20/22, R36/37/38, R51

3. HAZARD IDENTIFICATION

Toxicity class: WHO (a.i.) III (Table 5)
Main hazard: Irritating to the eyes and skin. This product is slightly hazardous. Due to the solvent, xylene present in the product, the product may be harmful by inhalation and in contact with skin.

Biological hazards: Mild eye irritant. Mild skin irritant. May cause irritation of the gastrointestinal tract by inhalation.

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.

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 non-abrasive 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: 40 °C (closed cup).

This material is flammable.

Fire may produce combustion products, which are toxic and irritating. 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 later disposal. Avoid the accumulation of polluted runoff from the site.

Firefighting: Remove spectators from surrounding area. Isolate the fire area and evacuate downwind. Use a

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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 insecticide 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 unauthorised persons, children and animals. Store in its original labelled 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: White homogeneous solution, without coagulation and with a weak chemical odour.
Flammability: Flammable & combustible.
Flash point: 40 °C (closed cup).
Explosion properties: Not explosive.
Corrosiveness: Non-corrosive.
Solubility: Forms an emulsion in water.
pH: 6.6 in 1% aqueous solution.
Density: 1.007 g/ml.

10. STABILITY AND REACTIVITY

Stability: Chemically and thermally stable. React with strong bases.
Storage stability: Stable for a period of 2 years under normal warehouse conditions.
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 bases.
Hazardous decomposition products: Fire may produce harmful combustion products, which are toxic and irritating.

11. TOXICOLOGICAL INFORMATION

Acute oral LD₅₀: *Technical* in rats: 3160 mg/kg
Acute dermal LD₅₀: *Technical* in rats: 2 000 mg/kg in rats
Acute skin irritation: Mild irritant.
Acute eye irritation: Mild irritant.
Dermal sensitisation: Not expected to be a skin sensitizer. Individuals may develop an allergic response.
Inhalation: Slight toxicity. Inhalation of excessive amounts may cause respiratory irritation. *Technical:* LC₅₀ (4hrs): > 4000 mg/l
Teratogenicity: Embryotoxicity/fetotoxicity was observed in teratogenicity studies with rats and rabbits. Overall, the NOAEL was 75 mg/kg bw/day. After reviewing in vitro and in vivo short-term data, it was concluded that **Penconazole** was not genotoxic.
Carcinogenicity: **Penconazole** was not carcinogenic in mice and rats.
ADI: 0.0004 mg/kg bw

12. ECOLOGICAL INFORMATION

Mobility, Degradability & Accumulation: DT₅₀ in soil is 133 to 343 days, depending on the soil type. DT₅₀ for photolysis is 4 days in natural sunlight. In plants, the metabolic pathways are hydroxylation of the propyl side chain, conjugation to glucosides or metabolism to triazolalanine and triazolylacetic acid.

Animals: After oral administration, **Penconazole** is rapidly eliminated practically to entirety with urine and faeces. Residues in tissues were not significant and there was no evidence for accumulation.

ECOTOXICOLOGY: Non-toxic to birds. **TOXIC TO FISH.** Not toxic to bees.

Birds: Not toxic to birds.

Oral LD ₅₀ (8 day)	Japanese quail:	2424 mg/kg
	Pekin ducks:	> 3000 mg/kg
	Mallard ducks:	> 1590 mg/kg

Fish: Toxic to fish.

LC ₅₀ (96 hours):	carp:	3.8 to 4.6 mg/l
	Rainbow trout:	1.7 to 4.3 mg/l
	Bluegill sunfish:	2.1 to 2.8 mg/l

Daphnia:

IC ₅₀ (48 hours):	<i>Daphnia magna</i> :	7 to 11 mg/l
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Bees: Not toxic to bees.

LD ₅₀ (contact and topical):	> 5 µg/bee
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Earthworm: Not toxic.

LC ₅₀ (14 days)	> 1000 mg/kg
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Algae:

IC ₅₀ (5 days):	<i>Scenedesmus subspicatus</i> :	3.0 mg/l
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EC ₅₀ (5 days):	<i>Selenastrum capricornutum</i> :	0.83 mg/l
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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.

Container disposal: Emptied containers retain vapour and product residues. Observe all labelled 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.

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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.**
 (Penconazole 200 g/l)
Maritime Transport IMDG/IMO:
 Class: 3
 Packing group: III
 Shipping name: **Flammable liquid, N.O.S.**
 (Penconazole 200 g/l)
Considered a marine pollutant.

15. REGULATORY INFORMATION

Symbol: F, Xi
Indication of danger: **Flammable; Irritant.**
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 2 Keep 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.

16. OTHER INFORMATION

Packaging: Packed in 1, 5, 10, 20 and 25 litres fluorinated plastic containers and labelled 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 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.

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