

VILLA-KLOR 480 CS

MATERIAL SAFETY DATA SHEET

1. PRODUCT & COMPANY IDENTIFICATION

Product Name: VILLA-KLOR 480 CS
 Herbicide
UN No.: 3082
Supplier: Villa Crop Protection (Pty) Ltd.
 PO Box 10413,
 Aston Manor, 1630, South Africa
Telephone: (011) 396 2233
Fax: (011) 396 4666
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: Alachlor
Chemical Name: 2-chloro-2',6'-diethyl-N-methoxymethylacetanilide (IUPAC)
CAS No.: 15972-60-8
Chemical Family: Chloroacetanilide
Chemical Formula: C₁₄H₂₀ClNO₂ (Mol. wt.: 269.8)
Use: Pre-emergence, selective systemic herbicide.
Mode of Action: Absorbed by germinating shoots and roots, translocated through the plant and accumulated in vegetative parts. Acts by inhibition of protein synthesis and root elongation.
Formulation: Alachlor: 480 g/l
 Capsule Suspension
Hazardous Ingredient:

Alachlor	48%	restricted use pesticide, due to oncogenicity.
polycaprolactam	3 to 4%	investigated as a tumorigen.

SYMBOLS: Xn
RISK-PHASE(S): R22, R36/38, R43, R51, R68/21

3. HAZARD IDENTIFICATION

Main hazard: The use of this product may be hazardous to your health. The product contains ingredients, which have been determined to cause tumours in laboratory animals.
 Possible risks of irreversible effects. May cause allergic skin reaction. Toxic to aquatic organisms.
Likely routes of exposure: Skin contact and inhalation.
Skin contact: Mild irritant to skin. Not expected to produce significant adverse effects when use as recommended.
Eye contact: Mild irritant to eyes. Not expected to produce significant adverse effects when use as recommended.
Inhalation: Harmful by inhalation.
Ingestion: Harmful by ingestion. No significant adverse effects are expected to develop when use as recommended.

4. FIRST AID MEASURES AND PRECAUTIONS

Inhalation: Remove from exposure area to fresh air immediately. If breathing has stopped, perform mechanical artificial respiration. Keep person warm and at rest. Treat symptomatically and supportively. Get medical attention if necessary.
Skin contact: Remove contaminated clothing, leather goods and shoes immediately. Wash affected area with non-abrasive soap or mild detergent and large amounts of water until no evidence of chemical remains (approximately 15 to 20 minutes). Get medical attention if necessary.
Eye contact: Wash eyes immediately with large amounts of water, occasionally lifting upper and lower lids, until no evidence of chemical remains (approximately 15 to 20 minutes). Get medical attention if necessary. Severe contamination may require specialised attention.
Ingestion: Get medical attention immediately and make this document or label available to him. Wash mouth out with plenty of clean water. Never give anything to an unconscious person. Do not induce vomiting.
Note to physician:
Antidote: No specific antidote. Treat symptomatically and supportively.

5. FIRE FIGHTING MEASURES

Fire and explosion hazard: Not flammable, does not flash. Water based.
Extinguishing agents: Use carbon dioxide, dry chemical powder, or foam. Water spray can be used for cooling of unaffected stock, but avoid water coming in contact with the product. Minimise the use of water to prevent environmental contamination.

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Hazardous products of combustion: Carbon monoxide (CO) and hydrogen chloride (HCl).

Firefighting: Remove spectators from surrounding area. Isolate the fire area and evacuate downwind. Remove container from fire area if possible. Fight fire from a maximum distance or use unmanned hose holders or monitor nozzles. Contain fire control agents for later disposal. Use a recommended extinguishing agent. Water can be used to cool unaffected containers. Avoid inhaling hazardous vapours. Keep upwind. Do not scatter the material. Avoid pollution of waterways.

Personal protective equipment: Fire may produce irritating or poisonous vapours (oxides of nitrogen and fumes of chlorides), mists or other products of combustion. 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 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.

Occupational spill: Keep spectators away. Isolate hazard area and do not touch or walk through spilled material. Stop leak if you can do so without risk. Avoid runoff of product into sewers, water systems, basements or confined areas. Thoroughly wash body areas, which come into contact with the product.

For **spills**, soak up or cover with dry sand or other non-combustible absorbent material, sweep up and place into labelled containers for subsequent disposal. Do not allow spill to contaminate water supplies. Dike far ahead of liquid spills for later disposal.

In situations where product comes in contact with water, contain contaminated water for subsequent disposal. Do not flush spilled material into drains. Keep spectators away and upwind.

7. HANDLING AND STORAGE REQUIREMENTS

Handling: Harmful by inhalation or if swallowed. Avoid contact with eyes and skin, and inhalation of vapour and spray. Use with adequate ventilation.

Avoid exposure to spray. 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 herbicide 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: Store in a dry, cool covered warehouse in original, well-labelled containers. Keep containers tightly closed. Store away from food, feedstuffs, fertilisers, seed and agricultural chemicals. Keep away from children and animals. 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 dusts and 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 eye wash: 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.

TLV (USA): 5 mg/m³

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Light-brown capsule suspension. Liquid.

Odour: Characteristic odour.

Solubility in water: Completely miscible in water.

Flash point: Does not flash.

Explosive properties: Not explosive.

pH: 6 to 11.5.

Density: 1.00 to 1.20 g/ml

Corrosive: Non-corrosive.

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10. STABILITY AND REACTIVITY

Stability: Chemically and thermally stable. Not subjected to polymerisation. Stable to UV light.

Storage stability: Stable under normal warehouse conditions when stored in unopened packaging and kept in dry conditions.

Conditions and Materials to Avoid: Avoid contact with acids alkali and oxidising agents. Hydrolyzed by strong acids and alkalis.

Will not polymerize.

Hazardous decomposition products: Thermal decomposition: When heated, may give off toxic fumes of oxides of nitrogen, carbon, halogenated compounds. Decomposes at 105 °C.

Hazardous products of combustion: Fire may produce Carbon monoxide (CO) and hydrogen chloride (HCl).

11. TOXICOLOGICAL INFORMATION

Acute oral LD₅₀:

Technical: 1593 mg/kg in rats.

Formulation calculated: > 3000 mg/kg in rats.

Acute dermal LD₅₀:

Technical: > 2000 mg/kg in rats.

Formulation calculated: > 2000 mg/kg in rats.

Inhalation: *Technical: > 1.04 mg/ℓ in rats (4 hours).*

Skin irritation: Mildly irritating (rabbit).

Eye irritation: Mildly irritating (rabbit).

Dermal sensitisation (technical): Delayed contact hypersensitivity.

Carcinogenicity: Due to inconsistency results in studies, the oncogenic potential of **Alachlor** is uncertain. USA EPA requires the signa word "Danger" on product labels based on **Alachlor's** potential to cause tumours in rats.

Teratogenicity: Based on the animal studies, there is little or no teratogenic potential of the compound and it poses little risk of birth defects among humans.

Mutagenicity: Animal studies did not detect any mutagenic activity.

12. ECOLOGICAL INFORMATION

Degradability: Rapidly degraded in soil and water by microbial action to 2-chloro-2',6'-diethylacetanilide, with further degradation to the aniline derivative. **Alachlor** persists in soil for six to ten weeks, depending on soil type and climate, half-life: 21 days. **Alachlor** is persistent in water; 55% is degraded in 28 days.

Mobility:

Alachlor is moderately to highly mobile in soil. Mobilisation decreases with an increase in organic carbon and clay content in soil.

ECOTOXICOLOGY:

Birds: Moderately toxic to birds.

LD ₅₀ :	bobwhite quail	1536 mg/kg
LC ₅₀ (5 day diet)	mallard ducks	> 5620 mg/kg diet
	bobwhite quail	> 5620 mg/kg diet

Fish: Highly toxic to fish.

LC ₅₀ (96 hours):	rainbow trout	1.8 mg/ℓ
	bluegill sunfish	2.8 mg/ℓ
	fathead minnow	5.0 mg/ℓ

Daphnia:

EC ₅₀ (48 hours):		10 mg/ℓ
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Bees: Not toxic to bees.

Not hazardous to bees when used as directed.

LD ₅₀ :		32 mg/bee
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Earthworms:

LC ₅₀ (14 days):		387 mg/kg dry soil
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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 that cannot be reused or reprocessed should be disposed of in a landfill approved for pesticide disposal. Do not contaminate rivers, dams or any other water sources with the product or used containers.

Package product wastes: Emptied containers retain vapour and product residues. Observe all labelled safeguards. **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 one third of that of the container. Add the rinsing to the contents of the spray tank before destroying the container.

Destroy the emptied containers by perforation and flattening. Bury in an approved dump site. Do not re-use the empty container for any other purpose.

14. TRANSPORT INFORMATION

UN No.: 3082

Road Transport ADR/IRD:

Class:	9
Packaging group:	III
Shipping name:	Environmentally hazardous substance, liquid, N.O.S. (contains Alachlor 480 g/ℓ)

Air Transport ICAO/IATA:

Class:	9
Packaging group:	III
Shipping name:	Environmentally hazardous substance, liquid, N.O.S. (contains Alachlor 480 g/ℓ)

Maritime Transport IMDG/IMO:

Class:	9
Packaging group:	III

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15. REGULATORY INFORMATION

Symbol: Xn
Indication of danger: Harmful
Risk phrases:
R 22 Harmful if swallowed.
R 36/38 Irritating to eyes and skin.
R 43 May cause sensitisation by skin contact.
R 51 Toxic to aquatic organisms.
R 68/21 Harmful: possible risk of irreversible effects in contact with skin.
Safety phrases:
S 1/2 Keep locked up and out of the reach of children.
S 13 Keep away from food, drink and animal feeding stuffs.
S 20/21 When using do not eat, drink or smoke.
S 24/25 Avoid contact with skin and eyes.
S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S 61 Avoid release to the environment. Refer to special instructions / safety data sheet.

16. OTHER INFORMATION

Packing and Labelling: Packed in 1, 5, 10, 20 & 25 litres fluorinated plastic containers and labelled according to the 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

Compiled: July 2004
Reviewed: March 2019
Revision no.: (2)
Next revision date: March 2024

For detailed information on revisions, contact the Registration holder.