

# UNIVERSAL ALACHLOR 348 EC

# MATERIAL SAFETY DATA SHEET

## 1. PRODUCT & COMPANY IDENTIFICATION

**Product Name:** ALACHLOR 384 EC  
 Herbicide  
**UN No.:** 3082  
**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 numbers:**  
**24 Hr Transport / Spill emergency no:**

Bateleur: +27 86 199 9071  
 (Client: Villa Crop Protection)

**Poisoning:**

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

## 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:** C<sub>14</sub>H<sub>20</sub>ClNO<sub>2</sub> (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: 384 g/l  
 Emulsifiable Concentrate  
**Hazardous Ingredient:** Alachlor  
**SYMBOLS:** Xn, E  
**Indication of danger:** Environmentally dangerous substance, **Explosive substance.**  
**RISK-PHRASE(S):** R20, R25, R36/38, R40, R43.  
 Carc. Cat. 3

## 3. HAZARD IDENTIFICATION

**Toxicity class:**  
 WHO II

**Alachlor is notice as a possible carcinogen.** The solvents used in the formulation are flammable; irritate the eyes, skin and respiratory tract. Avoid contact with eyes, skin, mucous membranes and clothing. The solvents affect the nervous system and degrease the skin. Risk of serious damage to eyes.

**Likely routes of exposure:**

Skin contact, ingestion, and inhalation.

**Inhalation:**

Harmful by inhalation.

**Skin contact:**

Slightly irritating to skin. The effect is reversible.

**Eye contact:**

Highly irritating to eyes. The effect is reversible.

**Ingestion:**

Moderately toxic by ingestion.

## 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 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 or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains (approximately 15 to 20 minutes). Get medical attention if necessary.

**Ingestion:**

Remove by gastric lavage and catharsis. Maintain blood pressure and airway. Give oxygen if respiration is depressed. Do not perform gastric lavage if victim is unconscious. Get medical attention immediately. Administration of gastric lavage or oxygen should be performed by qualified medical personnel.

**Antidote:**

No specific antidote. Treat symptomatically and supportively.

## 5. FIRE FIGHTING MEASURES

**Fire and explosion hazard:**

High explosion risk.

**Extinguishing agents:**

Extinguish small fires with carbon dioxide, dry powder, or alcohol-resistant foam. Water spray can be used for

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cooling of unaffected stock, but avoid water coming in contact with the product.

**Fire fighting:**

Remove container from fire area if possible. Solvent vapours may travel to a source of ignition and create a flash-back vapour explosion hazard indoors, outdoors or in sewers. Do not extinguish fire until flow of product has been stopped. 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.

**Personal protective equipment:**

Fire may produce irritating or poisonous vapours (toxic oxides of nitrogen and carbon and corrosive 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:**

Remove all sources of flames and sparks in immediate area. Earth all equipment used when handling the product.

For small liquid spills, soak up or cover with dry sand or other non-combustible absorbent material and place into containers for later disposal.

For large liquid spills, contain the liquid for later disposal. In situations where product comes in contact with water, contain contaminated water for later 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. Do not spray near open flame. Wash hands before eating, drinking, chewing gum, smoking, or using the toilet. 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:**

To maintain the quality, store in covered warehouse at temperatures between 0° and 50° C. Keep containers tightly closed, in a well-ventilated place. Store away from food, drink, animal feeding stuffs and sources of ignition. Keep away from children and unauthorised adults. Adhere to local regulations.

## 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 a face shield 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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Purple liquid.

**Odour:** Aromatic odour.

**Solubility in water:** Readily miscible in water – 242 ppm.

**Flash point:** 66 °C.

**Re-emulsifiability:** No separation or sedimentation at lowest recommended dilution after standing for 24 hours and being given 10 inversions and then left standing for 30 minutes.

**Specific gravity:** 0.983 g/cm<sup>3</sup>

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## 10. STABILITY AND REACTIVITY

**Storage stability:** Stable during storage for 14 days in 54°C (accelerated storage test).

**Stability:** Stable for up to 2 years under normal dry, shaded warehouse conditions. The product is stable in neutral, weakly acidic and alkaline solutions but is rapidly hydrolysed by strong acids and alkalis. The product is stable to UV light.

**Incompatibility:** Hydrolysed by strong acids and bases. May corrode plastic, steel and black iron.

**Thermal decomposition:** Thermal decomposition products may include toxic oxides of nitrogen and carbon and toxic corrosive fumes of chlorides.

## 11. TOXICOLOGICAL INFORMATION

**Acute oral LD<sub>50</sub>:** 2250 mg/kg in rats.

**Acute dermal LD<sub>50</sub>:** 6250 mg/kg in rats.

**Acute inhalation LC<sub>50</sub>:** Rats (4 hours): 1.04 mg/ℓ air (*technical*).

**Acute skin irritation:** Slightly irritating to skin. The effect is reversible.

**Acute eye irritation:** Highly irritating to eyes. The effect is reversible.

**Dermal sensitisation:**

Contact sensitization reactions observed in guinea pigs (*technical*).

**Carcinogenicity:**

**Alachlor** is classified as a probable human carcinogen. While the information is adequate for animal studies it is incomplete for human risks of cancer. Despite the incomplete record of human carcinogenicity due to **Alachlor**, the EPA has required the DANGER signal word 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.

**Mobility:**

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

## ECOTOXICOLOGY (based on technical):

**Birds:**

LD<sub>50</sub>: bobwhite quail 1536 mg/kg

**Fish:**

LC<sub>50</sub> (96 hours): rainbow trout 1.8 mg/ℓ

**Daphnia:**

EC<sub>50</sub> (48 hours): 10 mg/ℓ

**Bees:**

Not hazardous to bees when used as directed.

LD<sub>50</sub>: 32 mg/bee

**Earthworms:**

LC<sub>50</sub> (14 days): 387 mg/kg dry soil

## 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 10 % 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  
 Packing group: III  
 Exempt quantity: 1000 kg Factor F: 1  
 Shipping name: Environmentally hazardous substance, liquid, N.O.S. (**Alachlor** 384 g/ℓ)

**Air Transport ICAO/IATA:**

Class: 9  
 Packing group: III  
 Shipping name: Environmentally hazardous substance, liquid, N.O.S. (**Alachlor** 384 g/ℓ)

**Maritime Transport IMDG/IMO:**

Class: 9  
 Packing group: III

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Shipping name: Environmentally hazardous substance, liquid, N.O.S. (Alachlor 384 g/l)

Considered a marine pollutant.

## 15. REGULATORY INFORMATION

**Symbol:** Xn, E  
**Indication of danger:** Environmentally dangerous substance, **Explosive**

**Risk phrases:**  
R20, R25, R36/38, R40, R43. Carc. Cat. 3

- R 20** Harmful by inhalation
- R 25** Toxic if swallowed.
- R 36/38** Irritating to eyes and skin.
- R 40** Possible risks of irreversible effects.
- R 43** May cause sensitisation by skin contact.

- Safety phrases:**
- S 1/2** Keep locked up and out of the reach of children.
  - S 3/14** Keep in a cool place away from open flames and sparks.
  - S 36/37/39** Wear suitable protective clothing, gloves and eye/face protection.

## 16. OTHER INFORMATION

**Packing and Labelling**  
Packed in 5, 20, 25, 200 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:** December 1999  
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For detailed information on revisions, contact the Registration holder.