#### **RESTRICTED USE AGRICULTURAL REMEDY**

THIS REMEDY IS RESTRICTED DUE TO ITS INCLUSION ON ANNEX III OF THE ROTTERDAM CONVERTION. THIS REMEDY MAY ONLY BE SOLD TO AND USED BY A REGISTERED PEST CONTROL OPERATOR, OR BY SOMEONE UNDER THE SUPERVISION OF A REGISTERED PEST CONTROL OPERATOR, AND ONLY FOR THOSE USES COVERED BY THE PEST CONTROL OPERATOR'S SCOPE OF REGISTRATION, AND ONLY AS DIRECTED ON THIS LABEL.



# ALACHLOR EC

Reg. No. L 6667 Act No. 36 of 1947



### READ ATTACHED PACKAGED LEAFLET BEFORE USE AND KEEP OUT OF REACH OF CHILDREN AND ANIMALS

GROUP 15 HERBICIDE

A pre-emergence emulsifiable concentrate herbicide for the control of most annual grasses and certain broadleaf weeds in maize, sweetcorn, groundnuts, soybeans, sunflowers, transplanted cabbage, broccoli, Brussels sprouts, potatoes, sugarcane and pineapples.

## Hazard statements

Flammable liquid and vapour.

Harmful if swallowed.

Harmful if inhaled.

May cause allergic skin reaction.

May cause respiratory irritation or drowsiness or dizziness.

May be fatal if swallowed and enters airways.

Suspected of causing cancer.

Very toxic to aquatic life.

Very toxic to aquatic life with long lasting effects.

**DANGER** 

#### **Precautionary statements**

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Wear protective gloves/protective clothing/eye protection/face protection.

Avoid release to the environment if this is not the intended use and collect spillage.

ACTIVE INGREDIENT: Alachlor (chloro-acetanilide)	384g/ℓ
Registration holder: UPL South Africa (Pty) Ltd. Co. Reg. No.: 2009/019713/07 7 Sunbury Office Park, Off Douglas Saunders Drive, La Lucia Ridge, South Africa, 4019 Tel: 031 514 5600	Net volume:
Batch No.: Date of Manufacture: Expiry date (< 2 years):	

U.N. No.: 1993

In case of Poisoning call the following

number(s):

**Emergency number(s):** 

Griffon Poison Information Centre: 082 446 8946,
Poisons Information Helpline: 0861 555 777,

In case of Spillage: Spill Tech: 086 100 0366 / 083 253 6618

#### **ALACHLOR EC**

Reg. No. L 6667 Act No. 36 of 1947

**HRAC HERBICIDE GROUP CODE: 15** 

**ACTIVE INGREDIENTS:** 

Registration holder: UPL South Africa (Pty) Ltd. Co. Reg. No.: 2009/019713/07

7 Sunbury Office Park, Douglas Saunders Drive, La Lucia Ridge 4019

Tel: 031 514 5600

#### WARNINGS

H226 - Flammable liquid and vapour.

H302 – Harmful if swallowed

H332 – Harmful if inhaled.

H317 – May cause allergic skin reaction.

H335 + H336 – May cause respiratory irritation or drowsiness or dizziness.

H304 – May be fatal if swallowed and enters airways.

H351 – Suspected of causing cancer.

H400 - Very toxic to aquatic life.

H410 – Very toxic to aquatic life with long lasting effects.

- Irritating to eyes and skin and may cause skin sensitisation by skin contact.
- Store in a cool dry place away from food, feeds, seed, fertilizers and other agricultural chemicals.
- FLAMMABLE Keep away from flames.
- Keep out of reach of children, uninformed persons and animals.
- In case of poisoning call a doctor and show him/her this label.

**Re-entry interval:** Do not enter treated field within one (1) day after application unless wearing protective clothing.

Aerial application: Notify all inhabitants in the immediate vicinity of the area to be sprayed and issue the necessary warnings. Do not spray over or allow drift to contaminate water or adjacent areas.

Although this remedy has been extensively tested under a large variety of conditions, the registration holder does not warrant that it will be efficacious under all conditions because the action and effect thereof may be affected by factors such as abnormal soil, climatic and storage conditions; quality of dilution water; compatibility with other substances not indicated on the label and the method, time and accuracy of application. The registration holder furthermore does not accept responsibility for damage to crops, vegetation, the environment or harm to man or animal or for lack of performance of the remedy concerned due to failure of the user to follow the label instructions or to the occurrence of conditions which could not have been foreseen in terms of the registration. Consult the supplier in the event of any uncertainty.

#### **PRECAUTIONS**

- P101 If medical advise is needed, have product container or label at hand.
- P102 Keep out of reach of children.
- P103 Read carefully and follow all instructions.
- P203 Obtain, read and follow all safety instructions before use.
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P233 Keep container tightly closed.
- P240 Ground and bond container and receiving equipment.
- P241 Use explosion-proof electrical/ventilating/lighting equipment.
- P242 + P243 Use non-sparking tool. Take action to prevent static discharges.
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- P264 Wash hands, forearms and face thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated area.
- P272 Contaminated work clothing shoulld not be allowed out of the work place.
- P273 + P391 Avoid release to the environment if this is not the intended use and collect spillage.
- P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
- P301 + P316 IF SWALLOWED: Get medical help immediately.
- P302 + P352 IF ON SKIN: Wash with plenty of water.
- P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water [or shower].
- P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P318 IF exposed or concerned, get medical advice.
- P319 Get medical help if you feel unwell.
- P321 Specific treatment (see first aid treatment on this label).
- P330 Rinse mouth.
- P331 Do NOT induce vomiting.
- P333 + P317 If skin irritation or rash occurs: Get medical help.
- P362 + P364 Take off contaminated clothing and wash it before reuse.
- P370 + P378 In case of fire: Use media other than water to extinguish.
- P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
- P405 Store locked up.
- P501 Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
- Wear rubber gloves, boots and a face shield when handling the concentrate and rubber gloves and boots during application.
- In case of accidental contact with skin or eyes, wash immediately with plenty of water and in the case of eyes, get medical attention, if necessary.
- Do not smoke, eat or drink while using, or before washing and change of clothing.
- Prevent contamination of food, feeds, drinking water and eating utensils.
- Prevent drift and/or contamination onto susceptible or edible crops, grazing, rivers, dams or any other areas not under treatment.
- 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 (3) 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 (<a href="www.croplife.co.za">www.croplife.co.za</a>). Do not bury, burn or donate the container to any other parties that may use it as a container for food or beverages.
- Do not re-use empty container for any other purpose.

#### **RELEVANT SUBSTANCES**

Alachlor	25 to 50 %
Solvent naphtha (petroleum), heavy aromatic	45 to 60 %
A blend of benzenesulfonic acid, 4-C10-13-sec-alkyl devs., calcium salts and isobutyl alcohol.	0.81 to 1.08 %

#### SYMPTOMS OF HUMAN POISONING

Headache, dizziness and nausea.

#### FIRST AID TREATMENT

Inhalation: Remove patient from exposure to fresh air. If breathing is difficult, administer artificial

respiration. Obtain medical attention.

**Skin contact:** Wash contaminated skin with soap cold water.

Eye contact: Irrigate with eye wash solution or clean water for at least 15 minutes. Get medical

attention.

Ingestion: Wash out the mouth with plenty clean water. Never give anything by mouth to an

unconscious person. Get medical help.

#### **NOTE TO PHYSICIAN**

There is no specific antidote. Treat symptomatically and give supportive therapy.

#### **RESISTENCE WARNING**

**ALACHLOR EC** is a group code **15** herbicide. Any weed population may contain individuals naturally resistant to **ALACHLOR EC** and other group code **15** herbicides. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly. These resistant weeds may not be controlled by **ALACHLOR EC** or any other group code **15** herbicide.

To delay herbicide resistance:

- Avoid exclusive repeated use of herbicides from the same herbicide group code. Alternate or tank mix with products from different herbicide group codes,
- Integrate the control methods (chemical, cultural, biological) into weed control programmes.

For specific information on resistance management contact the registration holder of this product.

#### **MODE OF ACTION**

**Alachlor** is a selective, systemic herbicide, absorbed primarily by germinating shoots, but also by roots, translocated in the xylem throughout the plant accumulating primarily in vegetative rather than reproductive parts. Maize selectivity is primarily due to conjugation with glutathione (GSH) catalysed by glutathione Stransferase (GST).

#### NOTICE TO THE USER

THIS AGRICULTURAL REMEDY IS TO BE USED ONLY IN ACCORDANCE WITH THE INSTRUCTIONS ON THE LABEL. IT IS AN OFFENCE UNDER THE ACT TO USE THIS AGRICULTURAL REMEDY FOR ANY PURPOSE IN A MANNER CONTRARY WITH THE DIRECTIONS ON THE LABEL.

#### RESTRICTED USES: Use only as directed.

#### **General information:**

- · Ensure accurately calibrated equipment.
- A deep ploughing, just prior to planting is essential for:
  - Improved control of *Cyperus esculentus* (Yellow nutsedge). See paragraph on **VARIABLE WEED CONTROL** at the end of this label.
  - Breaking of compaction layers which could lead to waterlogged soil and subsequent possible damage to maize following heavy rain.
- Prepare a fine even seedbed free of weeds, trash and clods.
- **Do NOT** apply **ALACHLOR EC** to inbred parent plants of maize hybrids or onto experimental or newly released cultivars, without first referring to the manufacturers or seed suppliers.
- **Do NOT** apply to poorly drained soils. Water logging in the presence of herbicides could cause stand reduction and/or stunted growth.
- Do not apply ALACHLOR EC to sandy soils.
- Before using ALACHLOR EC in combination with other herbicides, read the labels and adhere to label recommendations.
- Flood irrigation can reduce weed control efficacy.

#### Mixing instructions:

- Shake container well before use. Close container securely after use.
- To a spray tank half filled with clean water, add the required amount of **ALACHLOR EC** while maintaining agitation. Complete filling operation.
- When mixing **ALACHLOR EC** with other herbicides, use the following procedure:
  - Fill spray tank three quarters with clean water. Add required amount of complementary herbicide to the water agitating continuously.
  - Add ALACHLOR EC just before the tank is filled to its full level.
  - Ensure thorough agitation of the mixture in the tank during mixing and spraying.
  - Tank mixtures must be sprayed out immediately and not allowed to stand in the spray tank overnight.
  - Thoroughly flush out spraying equipment at the end of the spraying operation.

#### Application:

- Apply ALACHLOR EC with planting or immediately after planting, but not later than two days after planting.
   Use a total of 200 litres spray mixture per hectare for overall ground application and 30 to 40 litres per hectare for aerial application.
- Between 5- and 15-mm rain within 7 to 10 days after application is necessary for good results. Under dry conditions, weed seedlings may emerge. These are usually stunted and can be controlled with a shallow cultivation, which also mixes the herbicide with the top 10 to 20 mm soil.
- If soil crusting becomes a problem, rotary harrow in the same direction the rows are planted, to assist maize germination. Harrowing after application may reduce weed control if untreated soil is thrown into deep planter furrows.
- Ensure that sufficient fertilizer is placed in a band close to the seed during planting, to promote vigorous seedling growth.
- Ensure equipment is accurately calibrated and regularly checked before and during application.

#### Aerial application:

**ALACHLOR EC** must not be applied from the air to maize. Aerial application of **ALACHLOR EC** may only be done by a registered Aerial Application Operator using a correctly calibrated, registered aircraft according to the instructions of SABS Code 0118 (Aerial Application of Agricultural Pesticides). Ensure that the spray mixture is distributed evenly over the target area and that the loss of spray material during application is restricted to a minimum. It is therefore essential that the following criteria be met:

- Volume: A spray mixture volume of 30 to 40 litres per hectare is recommended. As this product has not been evaluated at a reduced volume rate, the registration holder cannot guarantee efficacy, or be held responsible for any adverse effects if this product is applied aerially at a lower volume rate than recommended above.
- Droplet coverage: 25 to 35 droplets per cm<sup>2</sup> must be recovered at the target area.
- <u>Droplet size</u>: A droplet spectrum with a VMD of 350 to 400 micron is recommended. Limit the production of fine droplets less than 150 micron (high drift and evaporation potential) to a minimum.
- <u>Flying height</u>: Maintain the height of the spray boom at 3 to 4 metres above the target. Do not spray when aircraft dives, is in a climb or when banking.
- Use suitable <u>atomising equipment</u> that will produce the desired droplet size and coverage, but which will
  ensure the minimum loss of product. The spraying system must produce a droplet spectrum with the
  lowest possible Relative Span.
- Position all the atomisers within the inner 60 to 75 % of the wingspan to prevent droplets from entering the wingtip vortices.
- The difference in <u>temperature</u> between the wet and dry bulb thermometers, of a whirling hygrometer, should not exceed 8 °C.
- Stop spraying if the wind speed exceeds 15 km per hour.
- Stop spraying under <u>turbulent</u>, unstable and dry conditions during the heat of the day.
- Spraying under temperature <u>inversion conditions</u> (spraying in or above the inversion layer) and/or high humidity conditions (relative humidity 80 % and above) may lead to the following:
  - a. Reduced efficacy due to suspension and evaporation of small droplets in the air (inadequate coverage).
  - b. Damage to other sensitive crops and/or non-target areas through drifting of the suspended spray cloud away from the target field.
- Ensure that the Aerial Spray Operator knows exactly which fields to spray.
- Obtain an assurance from the Aerial Spray Operator that the above requirements will be met, and that relevant data will be compiled in a logbook and kept for future reference.

#### **APPLICATION RATES**

#### 1. MAIZE

#### Pre-emergence to crop and weeds.

- Application to be made at planting or not later than two (2) days after planting. Use the correct rates for different row and band widths.
- To increase the spectrum of broadleaf weeds controlled in maize only tank mixtures with atrazine suspension concentrates are recommended.

% Soil Clay	ALACHLOR EC	Atrazine 500 SC #ha	Remarks
0 to 10 11 to 16 17 to 20 21 to 35 >35	4.0 * 4.0 * 4.5 5.0 5.0	1.75 to 2.25 2.25 2.75 to 3.25 4.0 4.0	When a short soil persistence is required in view of follow-up crops, use only 1.5 litres per hectare <b>Atrazine 500 SC</b> on soils up to 35 % clay and 2 litres per hectare <b>Atrazine 500 SC</b> on soils over 35 % clay.

**NOTE** (\*) - On soils of 0 to 10 % clay in the Northwest Province and Northern Free State use the recommendations below.

#### For special annual grass and broadleaf weed control in maize:

For use on soils of 0 to 20 % clay only (including soils of 0 to 10 % clay in Northwest Province and Northern Free State).

Apply the required **ALACHLOR EC** rate post planting of the crop and pre-emergence of the crop and weeds either in a tank mix with the required **Atrazine 500 SC** rate or alone followed by **Atrazine 500 SC** applied early post-emergence of the weeds according to the manufacturers label recommendations.

ALACHLOR EC l/ha	Atrazine 500 SC Uha	Weed Species
2.0 *	2.5 to 3.25 depending on soil type	Eleusine indica (Goose grass) Chloris virgate (Feathertop Chloris)
3.0 **	2.5 to 3.25 depending on soil type	Digitaria sanguinalis (Crab fingergrass) Urochloa panicoides (Herringbone grass) Panicum schinzii (Sweet buffalo grass)

**NOTE** (\*) - Nutsedge (*Cyperus esculentus*) will not be controlled at these rates.

(\*\*) - In areas of known high *Digitaria sanguinalis* (Crab fingergrass) infestations it is recommended to use **ALACHLOR** *EC* at 4.0 to 5.0 litres per hectare in a tank mix with **Atrazine 500 SC** as recommended (excluding soils of 0 to 10 % clay in the Northwest Province and Northern Free State).

- For soils over 20 % clay, use ALACHLOR EC at 5.0 litres per hectare as recommended above.
- Apply ALACHLOR EC at 3.0 litres per hectare in a tank mix with Atrazine 500 SC according to the above recommendations up to four (4) weeks after planting the maize.
- Emerged weeds should be destroyed with a shallow cultivation (less than 3 cm deep) prior to the **ALACHLOR EC** plus **Atrazine 500 SC** treatment.
- Where the crop has emerged, spraying should be directed between the crop rows and not over the crop.
- **DO NOT** apply **ALACHLOR** treatment in under 200 litres water per hectare.
- **DO NOT** apply by aircraft to maize.

#### **NOTE**

Atrazine 500 SC tank mixed with ALACHLOR EC results in soil persistent residues.

- **DO NOT** plant **Atrazine** sensitive crops before the time stated on the **Atrazine 500 SC** label. However, if the rate of **Atrazine 500 SC** used was 1.5 litres per hectare, then the waiting period is only six (6) months and if 2.0 litres per hectare is used the waiting period is nine (9) months, for the following crops:
  - o Grain sorghum, Forage sorghum, Sunflowers, Groundnuts, Soybeans, Potatoes, Dry beans and Cereals.
- If ALACHLOR EC plus Atrazine 500 SC tank mixtures are applied onto turf soils (soils which expand when wet and crack when dry), then the Atrazine 500 SC may remain active much longer in the soils than the above-mentioned waiting periods.

• DO NOT use ALACHLOR EC plus Atrazine 500 SC tank mixtures on these soils if it is anticipated that an Atrazine 500 SC sensitive crop is to be planted in rotation.

#### 2. SWEETCORN

- ALACHLOR EC can be applied as a post plant pre-emergence treatment. Sweetcorn cultivars exhibit a
  wide variation in tolerance of ALACHLOR EC and only those cultivars known to be tolerant should be
  treated.
- Consult your seed supplier and/or representative before treating sweetcorn with ALACHLOR EC.

% Clay	ALACHLOR EC ∉ha
0 to 10	Not recommended
11 to15	4.0
16 to 20	4.5
21 to 35	5.0
>35	Not recommended

#### 3. SUGARCANE

#### Pre-emergence in respect of weeds.

- Apply 5.0 to 6.0 litres per hectare: If *Panicum maximum* (from seed only) is expected to be a major problem use the higher rate.
- For the control of a broad spectrum of broadleaf weeds and annual gasses, MCPA 400 SL OR Atrazine 500
   SC can be added to the above rates of ALACHLOR EC as follows:

Product	Dosage Uha
MCPA 400 SL (Potassium salt)	4.0
Atrazine 500 SC	2.0
	Sandy to sandy clay loam soil (up to 35 % clay)
Atrazine 500 SC	3.0
Attazille 300 30	Sandy clay to heavier clay (above 35 % clay)

#### Early post-emergence in respect of weeds.

**ALACHLOR EC** combinations for plant and ratoon cane.

Very early post-emergence of weeds per hectare		6 ℓ ALACHLOR EC
	6 ℓ ALACHLOR EC	PLUS
	PLUS	2 to 3 ℓ Atrazine 500 SC
	2.5 kg <b>Diuron</b>	PLUS
		1 to 2 ℓ <b>Paraquat</b> (*)
(*) Apply <b>Paraquat</b> before the second leaf has unfurled.		

The **ALACHLOR EC PLUS Diuron** combination provides control of *Cyperus esculentus*, annual grasses and broadleaf weeds.

#### 4. POTATOES

#### Pre-emergence in respect of weeds.

• Apply 4.0 to 5.0 litres per hectare: Unless irrigated, apply pre-emergence to potatoes and weeds, after the first summer rains. Use the lower rate on lighter soils (0 to 16 % clay).

#### Early post-emergence to weeds.

- ALACHLOR EC is a <u>pre-emergence</u> herbicide.
- However, for <u>early post-emergence application</u>, after the first summer rains (unless irrigated), add Paraquat
  at 1 to 2 litres per hectare. (Paraquat PLUS ALACHLOR EC mixtures must not be applied after 10 %
  potato emergence.)

#### 5. GROUNDNUTS AND SOYBEANS

#### Pre-emergence of weeds and crop.

• Apply 4.0 to 5.0 litres per hectare: Application to be made at planting, or not later than two (2) days after planting. Use the lower rate on lighter soils (0 to 16 % clay).

#### 6. **SUNFLOWERS**

- Apply pre-emergence of weeds and crops at 4.0 to 5.0 litres per hectare depending on soil type.
- Use 4.0 litres of hectare on lighter soils (0 to 16 % clay).

# 7. TRANSPLANTED CABBAGE, BROCCOLI (Late Corona and Premium Crop), BRUSSELS SPROUTS (Jade Cross)

#### Pre-emergence of weeds after crop transplanted.

- Apply 4.0 to 5.0 litres per hectare: Apply as soon as possible after the first post-transplanted irrigation and pre-emergence of the weeds.
- Use 4.0 litres per hectare on lighter soils (0 to 16 % clay).

#### 8. PINEAPPLES

- Apply **ALACHLOR EC** at 4.0 to 5.0 litres per hectare pre-emergence of weeds.
- Use 4.0 litres per hectare on light soils (0 to 16 % clay).

WEEDS CONTROLLED		
Grasses:		
Botanical name	Common name	
Brachiaria eruciformis	Sweet signal grass	
Chloris virgata	Feathertop Chloris	
Digitaria sanguinalis	Crab fingergrass	
Echinochloa crus-galli	Barnyard grass	
Panicum maximum	Common buffalo grass	
Panicum schinzii	Sweet buffalo grass	
Setaria verticillata	Sticky bristle grass	
Setaria pallide-fusca	Red bristle grass	
Tragus racemosus	Large carrot-grass	
Urochloa panicoides	Herringbone grass	
Broadleaf weeds:		
Botanical name	Common name	
Amaranthus hybridus	Cape pigweed	
Amaranthus spinosus	Thorny pigweed	
Amaranthus thunbergii	Red pigweed	
Galinsoga parviflora	Gallant soldier	
Portulaca oleracea	Purslane	
Sonchus oleraceus	Sowthistle	
Amaranthus hybridus	Cape pigweed	

VARIABLE WEED CONTROL:		
Botanical name	Common name	
Anthemis cotula	Stinking mayweed	
Cosmos bipinnatas	Cosmos	
Chenopodium carinatum	Green goosefoot	
Cleome monophylla	Spindlepod	
Commelina benghalensis	Benghal wandering Jew	
Cyperus esculentus (*)	Yellow nutsedge	
Datura ferox (**)	Large thorn apple (Early germinating)	
Datura stamonium (**)	Thorn apple (Early germinating)	
Stellaria media	Chickweed	
Tagetes minuta (**)	Khaki weed (Early germinating)	

#### **IMPORTANT**

- This product controls annual weeds.
- Other annual weeds that were not present during the development trials with the product, may possibly also be controlled to a certain degree.
- The registration holder does not accept any responsibility for unlisted weeds.