



# PENTA 500 EC

Reg. No. L9875, Act No. 36 of 1947 | Reg. Nr. L9875, Wet Nr. 36 van 1947

A selective pre-emergent emulsifiable concentrate herbicide for the control of annual grasses and broadleaf weeds in various crops as listed.

'n Selektiewe emulgeerbare konsentraat vooropkoms onkruidodder vir die beheer van eenjarige grasse en breëblaar onkruid in verskeie gewasse soos gelys.

## HERBICIDE GROUP CODE K1

### ACTIVE INGREDIENT:

Pendimethalin (dinitroaniline) 500 g/ℓ

Manufactured for and Registered by | Vervaardig vir en Geregistreer deur:

Sharda International Africa (Pty) Ltd  
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## ONKRUIDDODER GROEPKODE K1

### AKTIEWE BESTANDDEEL:

Pendimetalin (dinitroanilin) 500 g/ℓ

BATCH NUMBER  
LOT NOMMER

DATE OF MANUFACTURE  
DATUM VAN VERVAARDIGING

NET CONTENTS /  
NETTO INHOUD

20 ℓ

UN No./VN Nr. 3082

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CAUTION  
VERSIGTIG



**WARNINGS**

- Handle with care.
- Toxic if inhaled.
- May be harmful if swallowed. Do not induce vomiting. Call a physician immediately.
- May cause irritation of the eyes and skin.
- Keep out of reach of children, uninformed persons and animals.
- Mildly toxic to wildlife and birds.
- Toxic to fish and other aquatic organisms.
- Store in the original container in a cool place under lock and key, away from food, feed, fertiliser and seed.
- Re-entry interval: Do not enter the treated area until spray deposit has dried.
- 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 herbicide 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 occurrence of resistance of weeds against the remedy concerned, as well as by 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**

- Do not inhale fumes or spray mist.
- Wear overalls, rubber gloves and boots, goggles and respirator when mixing the concentrate.
- Avoid contact with the skin and eyes.
- Wash skin with soap and water after use or in the case of accidental skin contact.
- Wash any contaminated clothing before re-use.
- Flush the eyes with clean water in the case of accidental eye contact.
- Do not eat, drink or smoke while mixing or applying or before washing hands and face and change of clothing.
- Prevent contamination of food, feedstuff, eating utensils and drinking water.
- Prevent the drift of spray mist onto other crops, grazing, rivers, dams or areas not under treatment.
- Do not apply near or onto desirable plants or trees, or on areas where their roots may extend, or in locations where the product may be washed or moved into contact with their roots.
- Rinse the empty container three times with a volume of water equal to a minimum of 10 % of that of the container. Add the rinsings to the contents of the spray tank before disposing of the container by perforation and flattening. Never use the container for any other purpose.
- Clean the applicator thoroughly after use and dispose of the wash water where it will not contaminate crops, grazing, rivers or dams.

**RESISTANCE WARNING:**

For resistance management "PENTA 500 EC" is a group code K1 herbicide. Any weed population may contain individuals naturally resistant to "PENTA 500 EC" and other group code K1 herbicides. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly. These resistant weeds may not be controlled by "PENTA 500 EC" or any other group code K1 herbicide.

To delay herbicide resistance:

- Avoid exclusive repeated use of herbicides from the same herbicide group code. Alternate or tank mix with registered products from different herbicide group codes.
  - Integrate other control methods (chemical, cultural, biological) into weed control programs.
- For specific information on resistance management contact the registration holder of this product.

**DIRECTIONS FOR USE: Use only as directed**

**COMPATIBILITY:** "PENTA 500 EC" is compatible with "BUZZIN 480 SC AND "DYNAMO 800 SC". Always strictly adhere to the mixing instructions, and always read and follow this label and the label for the product with which "PENTA 500 EC" is mixed. Water quality can affect compatibility. It is recommended that a compatibility test be carried out prior to use.

**MIXING INSTRUCTIONS:**

- Half fill the spray tank with water. Mix the required amount of "PENTA 500 EC" with clean water before adding it to the spray tank. Top up with clean water. Maintain agitation of the spray mixture during mixing and spraying to ensure thorough mixing.
- When spraying a tank mix, add the required amount of "PENTA 500 EC" to the spray tank first as described above. Add more water to the spray tank before adding the other tank mix product in a diluted form. Maintain agitation of the spray mixture during mixing and spraying to ensure thorough mixing.
- Do not allow any spray mixture to stand for an extended length of time, e.g. overnight.

**APPLICATION INSTRUCTIONS:**

- Accurately calibrate the spray equipment prior to each application.
- Properly prepare the soil before applying "PENTA 500 EC". The soil must have a fine tilth and be free of large clods, weeds and remains of the previous crop.
- Apply "PENTA 500 EC" in sufficient water to provide good spray coverage prior to planting the crop.

**Ground Application:**

- Ensure a uniform coverage by using flat fan type nozzles.
- Apply 150 to 250 litres water per hectare using conventional sprayers.
- Use spray pressure of at least 200 kPa.

**Aerial Application:**

Aerial application of "PENTA 500 EC" may only be done by a registered aerial application operator using a registered and correctly calibrated aircraft according to the instructions of SANS Code 10118 (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 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: 20 to 30 droplets per cm<sup>2</sup> must be recovered at the target area.
- Droplet size: 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.
- Flying height: 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 atomizing equipment 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 atomizers within the inner 60 to 75 % of the wingspan to prevent droplets from entering the wingtip vortices.
- The difference in temperature 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 turbulent, unstable and dry conditions during the heat of the day.
- Spraying under temperature inversion conditions (spraying in or above the inversion layer) and/or high humidity conditions (relative humidity 80 % and above) may lead to the following:
  - reduced efficacy due to suspension and evaporation of small droplets in the air (inadequate coverage),
  - 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.

**INCORPORATION:**

- If used in sunflowers, groundnuts, kidney beans, dry beans and soybeans: "PENTA 500 EC" must always be mechanically incorporated before seeding and within 5 days of application.
- Best results will be obtained if incorporation is carried out within 24 hours of a "PENTA 500 EC" application.
- **Very Important: 10 to 20 mm rain or irrigation within 7 to 10 days after application is required for best results.**

**Method of mechanical incorporation:** "PENTA 500 EC" should be thoroughly mixed into the upper 50 mm of the soil. This may be done by using a tandem disc or rotary hoe, which should be correctly adjusted and operated. Tandem discs should be set to tillage depth of 7 to 10 cm at 6 to 10 km per hour and the field should be cross disked. Rotary hoes should be set to tillage depth of 50 mm, operated at 5 to 6 km per hour in one direction only.

**WATER INCORPORATION**

**ONLY for use in cotton, sugarcane and transplanted tobacco. (Refer "CROPS AND REMARKS").**

**APPLICATION RATES****1. SUGARCANE (For control of *Rottboellia cochinchinensis*).**

% CLAY	DOSAGE RATE (t/HA)	REMARKS
0 - 20	Not recommended	-
> 20	4.0	Apply "PENTA 500 EC" before the weeds have emerged. Apply within 2 days of planting plant cane or within 7 days of cutting ratoon cane. <b>For good control of <i>Rottboellia cochinchinensis</i> it is VERY IMPORTANT</b> to incorporate the herbicide with 20 to 50 mm sprinkler irrigation as soon as possible after the application, but definitely within 3 days of application.

**2. CROPS OTHER THAN SUGARCANE**

% CLAY	SOIL DESCRIPTION	RECOMMENDED DOSAGE RATE (t/HA)	SPECIAL LOW RATE* (t/HA)
< 20 %	Light sand to sandy loam	2.0	1.3
20 - 35 %	Sandy clay loam	3.0	2.0
> 35 %	Sandy clay	4.0	2.6

\*The Special Low Rate can be used for the control of annual grasses. Variable control of annual broadleaf weeds will be obtained. It is only for ground application and mechanical incorporation is very important.

**DIRECTIONS FOR USE:**

CROP	REMARKS
Sunflowers Groundnuts (Spanish type) Dry Beans ( <i>Phaseolus spp.</i> ) Kidney Beans Soybeans	Seeding must be done immediately, or as soon as possible, after incorporation of "PENTA 500 EC" to obtain the maximum period of weed control. If it is necessary to cultivate following application and incorporation, either before or after planting, do not work the soil deeper than the depth to which the "PENTA 500 EC" was incorporated, or weed control will be less effective.
Potatoes	Apply "PENTA 500 EC" after planting to pre-made ridges or levelled soil and incorporate mechanically. Use only on Van der Plank, Up-to-Date and BP 1 cultivars. Do not let tubers come in contact with treated soil.
Cotton	<b>Mechanical incorporation:</b> When planting cotton in unridged soil, it can be planted after the "PENTA 500 EC" has been incorporated into the soil according to the instructions for the above crops. When planting in ridges, first prepare the ridges, then apply and incorporate the herbicide before planting the cotton. <b>Water incorporation:</b> Incorporation by means of 20 to 50 mm sprinkler irrigation must be carried out after the cotton has been planted and the herbicide applied.
Transplanted Tobacco	<b>Mechanical incorporation:</b> Transplant seedlings after "PENTA 500 EC" has been incorporated in the unridged soil or pre-made ridges. Make sure the tobacco roots are placed under the "PENTA 500 EC" treated soil layer. Do not use tobacco seedlings grown in seed trays or plants with pruned roots. <b>Water incorporation:</b> Incorporate "PENTA 500 EC" with sprinkler irrigation before transplanting by applying 20 to 50 mm irrigation. Only prepare the planting holes after the "PENTA 500 EC" application.

**NOTE:** A shorter period of grass weed control will be obtained when incorporating "PENTA 500 EC" with water than with mechanical incorporation.

**SOME WEEDS NORMALLY CONTROLLED:** (When used at the higher rates as recommended above)

BOTANICAL NAME	COMMON NAME
Annual Grass Weeds	
<i>Brachiaria brizantha</i>	Signal grass
<i>Chloris virgata</i>	Feather-top chloris
<i>Chloris pycnothrix</i>	Spiderweb chloris
<i>Digitaria sanguinalis</i>	Crab finger grass
<i>Echinochloa colona</i>	Marsh grass
<i>Echinochloa crusgalli</i>	Barnyard grass
<i>Eleusine indica</i>	Goosegrass
<i>Eragrostis spp.</i>	
<i>Panicum schinzii</i>	Sweet buffalo grass
<i>Panicum maximum</i>	Common buffalo grass
<i>Rottboellia cochinchinensis</i>	Guinea fowl grass
<i>Setaria pallidifusca</i>	Red bristle grass
<i>Setaria verticillata</i>	Sticky bristlegrass
<i>Tragus racemosus</i>	Large carrotseed grass
<i>Urochloa panicoides</i>	Herringbone grass
Annual Broadleaf weeds	
<i>Amaranthus deflexus</i>	Perennial pigweed
<i>Amaranthus hybridus</i>	Common pigweed
<i>Amaranthus spinosus</i>	Thorny pigweed (variable control)
<i>Amaranthus thunbergii</i>	Red pigweed

**NOTE**

- At the lower recommended rates, the annual grasses mentioned above will be controlled, but variable control of the annual broadleaf weeds will be obtained.
- **Follow-up crops:** Do not plant or replant any crops other than cotton, soybeans, groundnuts, beans (*Phaseolus spp.*) or sunflowers for a one year period after a "PENTA 500 EC" application.
- Tobacco may be replanted any time after a "PENTA 500 EC" application if the soil is not reworked.