SEE ENCLOSED LEAFLET FOR FULL DETAILS

XANBAC-D® 200 EC

ZEMA Product No.: 7293

FUNGICIDE GROUP CODE 34

An agricultural emulsifiable concentrate contact bactericide and fungicide for the control of the listed diseases on cotton, groundnuts, potatoes, beans, tomatoes and certain other vegetable and horticultural crops.

Active ingredients:
Dichlorophen ..... 200 g/ℓ

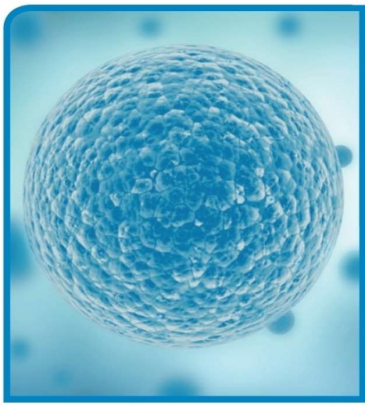
Hazard Statement
H226 Flammable liquid and vapour.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H336 May cause drowsiness or dizziness.
H411 Toxic to aquatic life with long lasting effects

Precautionary Statements
P210 Keep away from heat, hot surfaces, open flames and other ignition sources. No smoking.
P260 Do not breathe mist/ vapours/ spray.
P264 Wash thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P304+ P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Manufacturer & Supplier:
Nulandis, a division of AECI LTD
14 Field Road, Lilianton, Boksburg, 1459, South-Africa
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NULANDIS® unlocking nature's potential
A business of AECI Plant & Animal™ Health

Local Distributor:
ATS Agrochemicals Ltd.
Stand 3143, Mukwe Road, Lusaka, Zambia
Tel: +260 1 246 724-6



XANBAC-D® is a registered trademark of AECI Limited (Nulandis®, a division of AECI Ltd)



Net Volume:

Batch No:
Manufacturing date:
Expiry Date:

UN No. 1993 – Flammable liquids, n.o.s. (Propanol)

P8421



WARNING



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CAUTION

WARNINGS:

ALLOW THE FOLLOWING MINIMUM NUMBER OF DAYS BETWEEN LAST APPLICATION AND HARVESTING;

BEANS, TOMATOES, VEGETABLES & OTHER EDIBLE CROPS	**3 DAYS**
COTTON	**DO NOT APPLY LATER THAN 14 DAYS BEFORE HARVESTING AND NOT AFTER BOLLS HAVE OPENED**
GROUNDNUT HAY	**DO NOT USE AS FODDER PRIOR TO 6 WEEKS AFTER LAST APPLICATION**
CUCUMBERS:	**PHYTOTOXICITY MAY OCCUR AT HIGH TEMPERATURES AND WHEN DOSAGE RATES HAVE BEEN EXCEEDED.**

Poisonous when swallowed.
May cause skin irritation.
Apply to edible crops as soon as it has been planted.
Harmful to fish and other animals.
Store away from food and feedstuffs.
Keep out of reach of children, uninformed persons and animals.
FLAMMABLE: Do not store or handle near open flame.
Re-entry : Do not enter treated area until spray deposit has dried unless wearing protective clothing.
In case of poisoning – CALL A DOCTOR AND MAKE THIS LABEL AVAILABLE TO HIM.
Aerial application - notify all inhabitants of the immediate 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 OCCURRENCE OF RESISTANCE OF THE DISEASES 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 rubber gloves, boots and face shield when handling concentrate.
Wash contaminated clothing immediately after spraying.
Wash with soap and water immediately after use or accidental skin contact.
Do not eat, drink or smoke whilst mixing or applying or before washing hands and face and changing clothes.
Prevent contamination of food, feed, drinking water and eating utensils.
Prevent drift onto other edible crops, grazing, rivers, dams and areas not under treatment.
Clean applicator thoroughly with Flushsol before re-using and dispose of wash water where it will not contaminate crops, grazing, rivers and dams. Refer to the Flushsol label for directions of use.
When empty, invert the container over the spray tank or mixing tank and allow it to drain 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 at least one tenth of that of the container and add the rinsings to the contents of the spray tank. Destroy the container by puncturing and burying or burning it. Do not use the container for any other purpose.

RESISTANCE WARNING:

For resistance management**, Xanbac-D 200 EC** is a group code 34 fungicide. Any fungus may contain individuals naturally resistant to **Xanbac-D 200 EC** and other group code 34 fungicides. The resistant individuals can eventually dominate the fungus if these fungicides are used repeatedly. The resistant fungi may not be controlled by **Xanbac-D 200 EC** or any other group code 34 fungicide.
To delay fungicide resistance:

- Avoid exclusive repeated use of fungicides from the same fungicide group codes. Alternate with fungicides of different fungicide group codes, or use tank mixtures of different fungicide group codes.
- Integrate other control methods [chemical, cultural, biological] into disease control programmes.

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

DIRECTIONS FOR USE: USE ONLY AS DIRECTED

AERIAL APPLICATION**:**

Aerial application may only be done by a registered aerial application operator using a correctly calibrated, registered aircraft according to the instructions of SANS Code 10118 (Aerial Application of Agricultural Remedies). It is important to 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 are met:

Equipment:

Use suitable atomizing equipment (hydraulic nozzles or rotary atomizers) that will produce the desired droplet size and coverage, but which will ensure the minimum loss of product through drift.
The operator must use a setup that will produce a droplet spectrum with the lowest possible relative span.
All nozzles / atomisers should be positioned within the inner 60 to 75 % of the wingspan to prevent droplets from entering the wingtip vortices.

Application parameters:

A minimum volume of 30 – 40 l spray mixture 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.
A droplet coverage of 50 - 70 droplets per cm^2 must be recovered at the target. The CV for droplet distribution must not exceed 40 %.

A droplet spectrum with a VMD (Volume Median Diameter) of 250 is recommended. Ensure that the production of fine droplets (smaller than 150 microns) is restricted to a minimum.
The height of the spray boom should be maintained at 3-4 metres above the target. Do not spray when aircraft is in a climb, at the top or during a dive, or when banking.
Apply before the crop becomes too dense, thus preventing proper coverage of the plants.

Meteorological conditions:

The difference between the wet and dry bulb readings as determined by a whirling hygrometer, must not exceed 8 °C
Do not spray under turbulent, unstable conditions during the heat of the day when rising thermals and downdraughts occur.
Do not spray under temperature inversion conditions (spraying in or above the inversion layer).
Do not spray if the wind speed exceeds 15 km/h.

General:

Ensure that fields are accurately marked and 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.

COMPATIBILITY**:**

XANBAC-D 200 EC is an alkaline formulation. Do not apply with any other product which will reduce the pH in the spray tank or fertilizer concentrate tank feeding to pivot, drip or conventional irrigation systems (e.g. incompatible with ammonium nitrate). **XANBAC-D 200 EC** is only compatible with alkaline pesticides and foliar feeds. Do not mix **XANBAC- D 200 EC** with products which will lower the pH in the spray tank (spraying) and fertilizer concentration tank (fertigation). Use a suitable adjuvant to enhance the activity of **XANBAC-D 200 EC**. When using **XANBAC-D 200 EC** in combination with **CungFu 538 SC** (Reg. No. L7526, Act No. 36 of 1947) or **Kocide 2000** (Reg. No. L6137, Act No. 36 of 1947) use a sticker such as **Bio-Film** (Reg. No. L3684, Act No. 36 of 1947). When used alone as a foliar spray, add a suitable sticker such as **Bio-Film** (Reg. No. L3684, Act No. 36 of 1947). **Do not add any acidifier or adjuvant with acidifying features**.

APPLICATION METHODS:

Leaf application:

For additional fungal and bacterial disease control it is advisable to combine **CungFu 538 SC** /**Kocide 2000** with **XANBAC-D 200 EC** applications in sufficient water to ensure complete coverage of the plants.

Soil application:

For control of soil borne diseases **XANBAC-D 200 EC** may be applied via the irrigation system or as a drench. If applied by pivot, the irrigation cycle should be operated at maximum speed i.e. 5 - 7 mm. The degree of infection will determine the volume of water applied. It is of utmost importance to apply **XANBAC-D 200 EC** in sufficient water to penetrate and to reach the source of infection or permit adequate protection e.g. potato tubers. It is essential that infection be monitored at a constant basis. **XANBAC-D 200 EC** should not be applied to plants in tunnels, if the plants are under stress. Application to crops under protection should be aimed at the root zone in sufficient water (2 l / 1000 l water) applied when necessary. Do not use **XANBAC-D 200 EC** in closed hydroponic systems or in any instance where water is circulated.

Basal Plant Treatments:

Where stem infections appear either at or below soil level, special care must be taken to wet the target area thoroughly. In such cases use **XANBAC-D 200 EC** as a drench, in not less than 1 000 ℓ water/ha, or as transplant solutions.

Sanitation:
To prevent contamination of disease free lands with soil borne diseases, ensure that no movement of tractors, implements or labourers takes place from infected areas.

APPLICATION TABLE:

CROP	DISEASE	APPLICATION RATE PER 100 ℓ WATER OR AS INDICATED	REMARKS
FIELD CROPS: POTATOES	STEM CANKER (*Rhizoctonia solani*)	3 ℓ/ha 3 ℓ/ha 3 ℓ/ha	**1st Treatment:** At planting: Apply as a row application over the seed potatoes in a minimum of 500 ℓ water/ha. Close furrow immediately after application.* **2nd Treatment:** At or prior to emergence. Apply via sprinkler or pivot irrigation with 5-10 mm (ie. 50 000 – 100 000 ℓ) water/ha, depending on soil type. Use the lower water volume on sandy soils and the higher volume on heavy soils. **3rd Treatment:** Summer plantings: An additional **XANBAC-D 200 EC** application should be made before the flowering stage. **If the above preventative programme has not been followed, XANBAC-D 200 EC may be applied at 3 ℓ/ha as a corrective treatment as soon as the first symptoms are noticed. Repeat 7 days later where a high infection pressure persists.** * With furrow application, the best results will be obtained by mounting one fan jet nozzle over the opened plant furrow and one solid cone nozzle in a position to spray the covering soil.
COTTON	ANGULAR LEAF SPOT (Bacterial blight) (*Xanthomonas malvacearum*)	1 ℓ/ha 1.5 ℓ/ha 1 – 1.5 ℓ/ha	Ground application: Apply 125-200 ℓ water/ha. APPLY AT: 1) Early square stage. 2) Square stage (first flowers) 45-60 days after planting 3) First bolls (60 - 80 days after planting) 4) 7-14 days after 3rd spray 5) 7-14 days after 4th spray Aerial application: Apply in 30-40 ℓ water/ha.

CROP	DISEASE	APPLICATION RATE PER 100 ℓ WATER OR AS INDICATED	REMARKS
VEGETABLES: COLE CROPS	BACTERIAL SPOT (*Pseudomonas maculicola*)	200 mℓ	Commence spraying at the first signs of disease. Repeat at 7-14 day intervals if necessary, using not less than 500 ℓ spray mixture per hectare.
LETTUCE	ROT (*Pythium* spp; *Rhizoctonia solani; Botrytis cinerea*)	3 ℓ/ha 2 ℓ/ha	**Pre-plant:** Apply in at least 500 ℓ water/ha as a total surface spray. **Post-planting:** Apply as a cover spray when the first signs of the disease appear and repeat every 7-14 days if necessary.
CUCUMBERS	CUCUMBER WILT (*Pythium* spp.)	300 mℓ 200 mℓ	**Pre-seeding:** Apply as a drench using 400 mℓ of **XANBAC-D 200 EC** mixture per 10 ℓ plastic container. **Post emergence:** In case of re-infection repeat drench treatment as indicated above, using the 200 mℓ / 100 ℓ water concentration. **Note: Phytotoxicity may occur if the specified dosage rate is increased and at temperatures above 35°C.**
GREEN PEPPERS	DAMPING-OFF	200 mℓ	Apply as a drench treatment over established plants in seedling trays.
SEEDLINGS GENERALLY: VEGETABLES, FLOWERS, ORNAMENTALS, ETC.	DAMPING-OFF	200 mℓ 100 mℓ 200 mℓ 100 mℓ	**Growth medium treatment:** **Pre-seeding:** Use 40 ℓ of the **XANBAC-D 200 EC** mixture to treat one cubic metre of growth medium. **Seedlings:** Above application should be followed up with a drench treatment once the seedlings are established. **Seedbed treatment:** **Pre-emergence:** Apply as a drench treatment. **Post-emergence:** Apply as a drench treatment and repeat every 7-10 days depending on disease pressure.
HYDROPONIC SOLUTIONS	ALGAE spp.	10 mℓ/100 ℓ	Treat water source every 4-5 weeks depending on degree of algal growth.
TOMATOES	DAMPING-OFF (*Rhizoctonia solani* and *Pythium* spp.)	200 mℓ 1.0 - 1.5 ℓ/ha	Apply as a post-plant drench at ± 50-100 mℓ mixture per plant depending on size of plant. For drip irrigated tomatoes apply via drip at 1 - 1.5 ℓ/ha depending on size of plant.

CROP	DISEASE	APPLICATION RATE PER 100 ℓ WATER OR AS INDICATED	REMARKS
BEANS	ROOT ROT (*Rhizoctonia solani* and *Pythium* spp.*)*	20 mℓ/100 m row 2 ℓ/ha	**Pre-emergence or at emergence**: Apply as a row treatment with planting or at emergence. Use 20 mℓ **XANBAC-D 200 EC** in at least 3 ℓ water per 100 m plant row. **Post emergence**: Use in at least 500 ℓ water/ha to ensure good spray cover.
ONIONS & GARLIC	WHITE BULB ROT (*Sclerotium cepivorum*) PINK ROOT (*Pyrenochaeta terrestris*)	2-3 ℓ/ha	Inspect seedbeds regularly and **spray immediately when disease is observed,** or apply the following programme: **Seedlings:** Commence treatment at 4-6 true leaf stage and repeat every 14 days or at shorter intervals if necessary. **Transplants:** Apply the first application when 2-4 new leaves have formed after transplanting. Repeat within 14 days or when necessary. **Sets:** Commence treatment with emergence of the 6-8th leaf and repeat after 14 days or when necessary. Apply by means of irrigation system in at least 3-5 mm (30 000 - 50 000 ℓ) water/ha or spray in a minimum volume of 800 ℓ water per hectare and irrigate immediately after application with 3-5 mm water. A rigid programme should be followed, but if yellow, disease patches appear in the field these should be treated individually at the higher rate (see notes on sanitation).
GROUNDNUTS	LEAF SPOT (*Cercospora arachidicola*)	2-3 ℓ/ha	Apply the first treatment 3 weeks after emergence. Use the higher dosage where groundnuts were planted repeatedly. Depending on rainfall, prevailing temperatures and disease pressure follow up with 3-4 applications at 2-3 weekly intervals and use the lower rate. **Do not apply in less than 400 ℓ water per hectare.**
	WEB BLOTCH (*Phoma arachidicola*)	2-3 ℓ/ha	For the suppression of web blotch, apply as above.

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CungFu 538 SC & Kocide 2000 are the registered tradenames of Nulandis™ (A division of AECI Ltd.)