



MAKHRO 2,4-DB

Reg. No. L5311 Act /Wet No. 36 of/van 1947



READ THE LABEL BEFORE USE
KEEP OUT OF REACH OF CHILDREN AND ANIMALS

GROUP	4	HERBICIDE
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An aqueous concentrate post-emergence herbicide for the selective control of certain broadleaf weeds in lucerne, in pastures of annual medics, clover or grasses and in undersown lucerne in grain crops	'n Waterbasis konsentraat na-opkoms onkruidodder vir die selektiewe beheer van sekere breëblaaronkruid in lusern, eenjarige medicago, gras- en klawerweidings asook ondergesaaide lusern in graangewasse.
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 DANGER	Hazard statements Harmful if swallowed. Causes serious eye damage. Toxic to aquatic life with long-lasting effects. Precautionary statements Wear protective gloves; protective clothing; eye protection and face protection. Do not eat, drink or smoke when using this product.
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ACTIVE INGREDIENT/AKTIEWE BESTANDDEEL

2,4-DB (phenoxy compound)..... 400 g/L2,4-DB (fenoksie-verbinding)
(sodium salt) (natriumsout)

NET VOLUME/NETTO VOLUME

..... L

REGISTRATION HOLDER/REGISTRASIEHOUER

Makhro-Agro SA (Pty) Ltd.; Reg no: 1994/001973/07
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UN no.: Not regulated

EMERGENCY NUMBERS:

Griffon Poison Information Centre: +27 82 446 8946
Tygerberg Poison Information Centre: +27 861 555 777

Batch number
Date of manufacture
Expiry date

Lotnommer
Datum van vervaardiging
Vervaldatum



WARNINGS

- Harmful if swallowed.
- Causes serious eye damage.
- Toxic to aquatic life with long-lasting effects.

Allow 30 days between last application and grazing of lucerne. Do not use MAKHRO 2,4-DB on groundnuts.

- Handle with care.
- Store in a cool, dry place away from food, feeds and other agricultural chemicals.
- Keep out of reach of children, uninformed persons and animals.
- **RE-ENTRY INTERVAL:** Do not enter treated area within one day after treatment unless wearing protective clothing.

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 climatic and storage conditions, quality of dilution water, compatibility with other substances not indicated on the label and the occurrence of resistance of the 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, and the environment or harm to man/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

- Wash hands thoroughly after handling. Do not touch eyes.
- Do not eat, drink or smoke when using this product.
- Avoid release to the environment.
- Wear protective gloves/protective clothing/eye protection/face protection.
- **IF SWALLOWED:** Get medical help.
- **IF IN EYES:** Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Rinse mouth.



- Collect spillage.
- Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

- Do not breathe spray mist.
- Wash contaminated clothing daily.
- Prevent contamination of food, eating utensils, feed and drinking water. Prevent spray drift onto other crops, grazing, rivers and dams and other areas not under treatment.
- Clean applicator with a household ammonia solution (1%) before using with other material. Let solution stand for several hours. Preferably overnight. Rinse at least twice.
- This applicator should not be used for applying chemicals other than herbicides.
- Dispose of wash water where it will not contaminate food, grazing, rivers or dams.
- 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. Rinse the container three times.
- Add the rinsings to the contents of the spray tank before destroying the container.
- Do not use the container for any other purpose.

RELEVANT SUBSTANCES

Chemical name	w/w %	CAS no.
4-(2,4-dichlorophenoxy) butyric acid, sodium salt	30 – 60%	10433-59-7
Citric acid	<10%	77-92-9

FIRST AID

In case of accident or unwellness, seek medical advice immediately. Provide this SDS to medical personnel for treatment. Emergency personnel should wear protective clothing appropriate to the type and degree of contamination.

Immediately remove contaminated clothing and remove the affected person from the contamination area. Keep the person warm, calm and covered up. First Aid personnel should pay attention to their own safety.

Take the container label or product name with you when seeking medical attention.

Eye contact: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. Call a physician immediately



Skin contact: Remove all contaminated clothing and shoes. Rinse the skin immediately with plenty of water for 15 to 20 minutes under the safety shower. If skin irritation occurs: Get medical advice/attention.

Inhalation: Immediately remove the affected victim from exposure to an area with fresh air. If breathing is difficult have qualified personnel administer oxygen. If breathing has stopped, administer artificial respiration. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician.

Ingestion: Call a poison center or a doctor if you feel unwell. If conscious, rinse mouth thoroughly with water. Drink plenty of water. Never give anything by mouth to an unconscious or convulsing person. Do not induce vomiting. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomit, rinse mouth and administer more water.

TOXICOLOGICAL INFORMATION

Antidotes

None known. Treat symptomatically.

Symptoms of human poisoning (acute and delayed)

Symptoms/effects after inhalation: May cause shortness of breath, tightness of the chest, a sore throat and cough.

Symptoms/effects after skin contact: Causes mild skin irritation.

Symptoms/effects after ingestion: Abdominal pain, nausea. Ingestion may cause nausea and vomiting. May cause irritation to the digestive tract.

Symptoms/effects after eye contact: Serious damage to eyes.

NOTICE TO THE USER: This agricultural remedy is to be used only in according to the directions of this label. It is an offense under the Act to use this product inconsistent with the directions on the label.

RESISTANCE WARNING

For resistance management, **MAKHRO 2,4-DB** is a group code 4 herbicide. Any weed population may contain individuals naturally resistant to **MAKHRO 2,4-DB** and other group code 4 herbicides. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly. These resistant weeds may not be controlled by **MAKHRO 2,4-DB** or any other group code 4 herbicides.

Since the presence of resistant weeds is difficult to detect prior to herbicide application, it is of the utmost importance that treated areas be inspected at regular intervals to identify the occurrence of herbicide-resistant weeds timeously. The registration holder will not accept liability for performance failures in the event of a build-up of resistant weeds resulting from inadequate



resistance management practices as indicated on the label.

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 other control methods (chemical, cultural, biological) into weed control programmes.

For specific information on resistance management contact your local distributor representative.

MODE OF ACTION

MAKHRO 2,4-DB is a selective, systemic hormone-type herbicide that is absorbed by the leaves with translocation. It belongs to the synthetic auxin group of herbicides.

USE RESTRICTIONS

- To prevent damage, do not permit drift, vapour or spray mist to come into contact with sensitive broadleaf crops, fruit or ornamentals, as well as grain varieties in a susceptible growth stage.
- Apply the product strictly in accordance with the application directions.
- May be applied by tractor mounted or knapsack sprayers on lands in the vicinity of susceptible crops, provided that strict precautions are taken to avoid spray drift. Consult the supplier in case of any uncertainty in this regard.

WIND SPEED km/h	GROUND APPLICATION
1.5 - 5	200 m downwind 200 m crosswind 6 m upwind
5 - 10	400 m downwind 200 m crosswind 1.5 m upwind
10 - 15	800 m downwind 400 m crosswind 1.5 m upwind
Above 15	Prohibited



DIRECTIONS OF USE

Use only as indicated.

Compatibility

Do not mix **MAKHRO 2,4-DB** with wetting agents or other herbicides.

APPLICATION

GROUND APPLICATION:

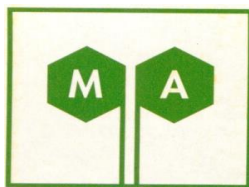
Avoid fine droplet size - use low pressure flat fan nozzles of 80° or equivalent anti-drift type, and do not exceed spray pressure of 200 kPa. Spray volume must exceed 150 L/ha. Do not exceed spray height of 50 cm above target and ground speed of 10 km/h. Do not apply if wind velocity exceeds 15 km / hour (as measured by handheld wind recorder) The difference between the wet and dry bulb readings on a whirling hygrometer must not exceed 8 °C. Spray when the crop and weeds are growing vigorously and at the stage recommended.

Adjust the height of the boom above the crop so that the growth tips of all weeds are sprayed.

Application when the soil is dry is NOT recommended.

APPLICATION RATES

CROP	DOSAGE RATE/HA	REMARKS
Clover and Grass	4 L	Apply from the first tri-foliolate stage of the clovers and onwards.
Lucerne	4 L	Apply from the first tri-foliolate leaf stage of the Lucerne. DO NOT apply later than the 4 th trifoliolate development stage of the Lucerne. Established Lucerne may be treated after being cut.
Undersown Lucerne in Grain Crops	4 L	See remarks under Lucerne above. Apply when wheat is between 5-leaf stage and fully tillered stage.



CROP	DOSAGE RATE/HA	REMARKS
Annual Medics and Clover Pastures (“spray-graze”)	1.5 L	<p>Apply from the 5 – 8 trifoliate leaf stage of the clovers and onwards. GRAZING: Heavily stock the camp with sheep for fast grazing of the weeds 7 – 14 days after this application. This grazing process should be completed within 10 days to prevent excessive trampling damage to the clovers.</p> <p>The process of “spray-graze” should be completed by the end of July to allow time for the establishment of a good clover stand for seed harvesting. IT IS IMPORTANT TO NOTE THAT THE PURPOSE OF THIS TREATMENT IS NOT TO KILL THE WEEDS BUT TO MAKE THEM MORE PALATIBLE FOR SHEEP AFTER SPRAYING.</p> <p>Broadleaf weeds reacting favourably to this treatment include: <i>Arctotheca calendula</i> (Cape marigold), <i>Raphanus raphanistrum</i> (Wild radish), <i>Emex australis</i> (Spiny emex), <i>Chenopodium</i> spp. (goosefoot) & <i>Malva parviflora</i> (small mallow).</p>

WEED SUSCEPTIBILITY:

Spray when weeds are in the 2 – 5 leaf stage and actively growing. The following weeds are controlled at

4 L/ha:

Acanthospermum hispidum

Amaranthus hybridus

A. spinosus

A. thunbergia

Argemone subfusiformis

Bidens bipinnata

B. pilosa



Capsella bursa-pastoris
Chenopodium album
C. carinatum
Citrullus lanatus
Cleome gynandra
C.monophylla
Commelina benghalensis
Cucumis myriocarpus
Datura stramonium
Emex australis
Flaveria bidentis
Galingsoga parviflora
Hibiscus trionum
Ipomoea purpurea
Oenothera rosea
Oxalis pes-caprae
Plantago lanceolata
Schukuhria pinnata
Senecio consanguineus
Tagetes minuta
Zanthium strumarium
Zinnia peruviana

Erratic control of the following weeds may occur and supplementary measures such as handweeding, mechanical cultivation or additional chemical treatments may be required:

Datura ferox
Portulaca oleracea
Tribulus terrestris



NOTE:

MAKHRO 2,4-DB controls the abovementioned annual broadleaf and grass weed species alone, or in tank mixes with other products as indicated. Other annual broadleaf and grass weed species 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 responsibilities for unlisted weeds. Weeds which have not germinated at the time of application will not be controlled. A second application of **MAKHRO 2,4-DB** may be required to control such weeds.