ADAMA
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ADAMA DIQUAT

Reg. no. L11105 Act/Wet 36 of/van 1947

A contact herbicide for the control of annual grasses and broadleaf weeds in the crops as indicated on the enclosed leaflet.

Kontak onkruidoder vir die beheer van eenjarige grasse en breëblare in die gewasse soos aangedui op ingeslote biljet.

HRAC HERBICIDE GROUP CODE **22** **HRAC ONKRUIDDODERGROEPKODE**

ACTIVE INGREDIENT/AKTIEWE BESTANDDEEL

Diquat ion (bipyridyl)	200 g/L	**Dikwat-ioon**
(as dibromide salt) ……	374 g/L	……..**(as dibromiedsout**)

NET VOLUME/NETTO VOLUME

…… L

REGISTRATION HOLDER/REGISTRASIEHOUER

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ADAMA DIQUAT is the trademark of a company of the ADAMA GROUP.
ADAMA DIQUAT is die handelsmerk van 'n maatskappy van die ADAMA GROEP.

CONTACT IN EMERGENCY/KONTAK IN NOOD

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

Batch number	.....	Lotnommer
Date of manufacture	.....	Datum van vervaardiging

UN no.: 1760

WARNINGS

Withholding periods (allow the following intervals to lapse between application and use of water):

Sprinkler irragation……..	7 days
Flood irrigation …….....	No restriction
Domestic use ……..…..	24 hours

- Keep livestock out of treated areas for 24 hours.
- Handle with care.
- **Diquat can be harmful if swallowed. Never repack from this container.**
- Undiluted **ADAMA DIQUAT** can cause eye and skin irritation.
- Can be toxic to bees
- Keep out of reach of children, uninformed persons and animals.
- Store under lock and key away from food, feed, fertilizers and seed.
- **In case of poisoning call a doctor and make this label available to him**.
- **Re-entry:** Do not enter treated area within 1 day after application unless wearing protective clothing.
- **Aerial application: (Floating aquatic weeds and sunflowers only).**
- Notify all inhabitants in the immediate vicinity of the area to be sprayed and issue the necessary warnings. Do not spray over or allow spray drift to contaminate water or adjacent areas. Avoid drift onto adjacent crops as green plant tissue will be damaged by the spray.

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 insect 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 humans or animals 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 eat, drink or smoke while handling this product.
- Avoid contamination of food, feed, drinking water and eating utensils.
- Do not use in mist blowers.
- Do not use muddy water.
- With knapsack and hand-held sprayers, mix each 1 parts of **ADAMA DIQUAT** with at least 40 parts of water.
- Wear rubber gloves and face shield when handling the concentrate.
- If you get it in your eyes, flush it out at once. If you get it on your skin, wash it off at once. If you spill it on your clothes, change and wash them. **(See first aid)**.

- 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 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 (www.croplife.co.za).
- Do not bury, burn or donate the container to any other parties that may use it as a container for food or beverages.
- While spraying, do not inhale the spray mist and avoid contact with the spray as much as you can. Avoid spray drift onto other crops, grazing, rivers or dams.
- Do not use the empty container for any other purpose.
- Keep unused **ADAMA DIQUAT** in this container, tightly closed, away from food.
- Dispose of wash water where it will not contaminate crops, grazing, rivers or dams.
- Change and wash your work clothes.
- Wash yourself.

FIRST AID

- **Eye-splashes:** Flush eyes immediately with copious quantities of water for 10 – 15 minutes. In all cases of more than a mild irritation consult an eye specialist.
- **Skin splashes:** Wash off immediately with soap and water.
- **Accidental swallowing:** In case of ingestion induce vomiting immediately if not already occurring and transfer patient to the nearest hospital as soon as possible.

MEDICAL TREATMENT

Give 1 L of suspension of Fuller's Earth (15%) or Bentonite (7%) with purgative, e.g. Mannitor (20% solution) or magnesium sulphate (200 ml). Repeat (4 – 6 hours) until stools contain adsorbent. Additional oxygen may be given if necessary. With haemoperfusion or haemodialysis, do not use anticoagulants, e.g. heparin. Peritoneal dialysis is the most common used treatment of renal failure. Pay particular attention to maintaining fluid/electrolyte balance.

RESISTANCE WARNING

For resistance management, **ADAMA DIQUAT** is a group code 22 herbicide. Any weed population may contain individuals naturally resistant to **ADAMA DIQUAT** and other group code 22 herbicides. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly and exclusively in programs. These resistant weeds may not be controlled by **ADAMA DIQUAT** or any other group codes 22 herbicides.

To delay herbicide resistance:

- Avoid exclusive repeated use of herbicides from the same herbicide group code. Alternate or tank mix with products from different herbicides group codes.
- Integrate other control methods (chemical, cultural, biological) into weed control programs
- Situations of resistance of weeds against paraquat and glyphosate applications are known. These weed populations might be resistant against **ADAMA DIQUAT** too.

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

DIRECTIONS FOR USE

Use only as indicated.

AERIAL APPLICATION (floating aquatic weeds and sunflowers only)

Aerial application of **GLYPHOGAN® 710 SG** 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 Pesticides). 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 be met:

- Volume: A spray mixture volume of 35 – 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: 35 to 40 droplets per cm^2 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 atomising 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 atomisers 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.

Conventional boomsprayer applications

- Mix the required amount of **ADAMA DIQUAT** with clean water in the spray tank.
- Ensure good weed coverage.
- AVOID SPRAY DRIFT.
- Do not spray buds or green parts of any crop.

- **ADAMA DIQUAT** kills green tissue of plants but does not harm mature bark.
- NOTE: Repeat application of **ADAMA DIQUAT** may be necessary for suppression of deep-rooted weeds such as:
- *Convolvulus arvensis* (field bind weed),
- *Malva parviflora* (small mallow),
- *Plantago lanceolata* (narrow-leaved ribwort) and
- *Rumex angiocarpus* (sheep sorrel).

Aquatic weed control in dams

ADAMA DIQUAT can be used in fish-bearing dams for the control of aquatic weeds at the recommended rate below.

NB: Before treating fish-bearing water consult your ADAMA DIQUAT distributor.

WEED	DOSAGE	REMARKS
Floating aquatic weeds Such as salvinia and water hyacinth	7.5 – 10 L **ADAMA DIQUAT** + 1.5 L **AGRAL** in 200 L water/ha	**Aerial application:** **Apply in** 35 – 40 L water/ha
Submerged aquatic weeds *Potamogeton* spp. *Lagarosiphon* spp.	**Total dam treatment:** 50 L **ADAMA DIQUAT** /ha dam surface area. (Depth of dam 1 m). Dilute **ADAMA DIQUAT** with an equal quantity of clean water before application.	Apply to inflo water via an intravenous medical drip apparatus at a drip rate of 1 drop per second. Repeat application when necessary.
	Spot Treatment: 0.5 L **ADAMA DIQUAT** /100 m^2	Apply with a knapsack sprayer in 20 L water/100 m2 weed surface area. Do not apply to more than 25% of total dam surface area in a two week period. Repeat application when necessary.

NOTE - WARNING

- Do not use **ADAMA DIQUAT** if any conditions contributing to high algae populations exist in the dam.
- The death of these algae could cause a reduction in available oxygen in the water and possible fish mortalities. High nutrient levels, artificial feeding, low water levels, high water temperature and unnaturally high fish populations (i.e, caged fish) are such factors that could contribute to high algae populations.
- Only apply **ADAMA DIQUAT** to dams with clean water.
- Do not apply **ADAMA DIQUAT** to dams containing suspended clay particles or where vegetation in the dam is coated with clay or soil particles.

- Apply **ADAMA DIQUAT** with application equipment to supply a coarse droplet spectrum.

Weeds control in crops

CROP	DOSAGE
Deciduous fruit orchards and vineyards	1.5 – 5 L **ADAMA DIQUAT**/ha in 200 – 750 L water

• For the control of annual grass and broadleaf weeds, especially Cape marigold *(Arctotheca calendula)*.
• Where both annual grasses and Cape marigold occur in vineyards and deciduous fruit orchards, **ADAMA DIQUAT** may be added to **paraquat** in equal parts in accordance with directions for use on **paraquat** label.
• Dosage/ha will depend on stand, growth stage and growing condition of weeds. Use higher volume and dosage rate for dense weeds.
• Adjuvants:
  • Add AGRAL at 100 ml/100 L spray mixture of **ADAMA DIQUAT** and at 50 ml/100 L to a **paraquat/ADAMA DIQUAT** mixture
  • For vineyards apply overall before budburst, thereafter as a directed spray.	

Harvesting aid in other crops

Sunflowers For the desiccation of sunflowers for earlier harvesting.	1.5 L **ADAMA DIQUAT** /ha
Aerial application • Apply in 35 – 40 L water/ha when the moisture of the sunflower is between 30 – 40% or when the peripheral bracts on the sunflower heads are brown and becoming brittle. • Add 30 ml AGRAL for every 30 L spray mixture.	
Potatoes Haulm killing for the early harvesting of potatoes.	2.5 – 5 L **ADAMA DIQUAT** /ha Apply in 500 – 1000 L water/ha
• Do not apply if haulms show signs of wilting as tuber damage may occur. • Do not apply in overcast conditions. • Add 100 ml AGRAL per 100 L spray mixture.	

NOTE: Avoid spray drift onto adjacent crops as green plant tissue will be damaged by the spray.

Weeds controlled by ADAMA DIQUAT

All annual broadleaf weeds including:	
Arctotheca calendula	Cape marigold
Erodium moschatum	Musk heron's bill

- **ADAMA DIQUAT** will not control any perennial weeds or woody shrubs or plants with large vegetative reproductive organs e.g. common reed.
- **ADAMA DIQUAT** scorches and controls the green above soil parts of most annual weeds. Re-growth often happens due to subsoil parts re-germinating e.g. from stolons or bulbs.
- Inconsistent and variable control of weeds even at these high rates may be experienced due to a number of reasons namely:
    - drought stress,
    - cold or heat stress,
    - plants with waxy layers e.g., *Portulaca oleracea*, *Chenopodium album*, *Gisekia harnecoides*,
    - natural resistance to the control with paraquat based products e.g. *Commelina benghalensis*, *Ipomoea* spp., *Malva parviflora* and *Conyza bonariensis*,
    - acquired resistance due to the repeated use of paraquat and/or glyphosate e.g. *Lolium* spp and *Conyza bonariensis* (confirmed resistance in the RSA),
    - poor coverage and penetration of exposed leaves e.g *Argemone subfusiformis*,
    - plants with bulbs and tubers e.g. *Cyperus* spp (re-growth),
    - growth tips being protected either by leave sheets covering growth points or subsurface growth points.
    - inconsistent relationship between above soil parts and below soil parts e.g. *Conyza bonariensis* after dry periods or growth during the winter
    - poor water quality.