

ADAMA DIQUAT

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



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

GROUP	22	HERBICIDE
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A contact herbicide for the control of annual grasses and broadleaf weeds in the crops as indicated on the enclosed leaflet.	'n Kontak onkruidoder vir die beheer van eenjarige grasse en breëblare in die gewasse soos aangedui op ingeslote biljet.
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 <p>DANGER</p>	<p>Hazard statements Harmful if swallowed Harmful in contact with skin. Toxic if inhaled Causes skin irritation. Causes serious eye damage May cause an allergic skin reaction. May cause drowsiness or dizziness. Causes damage to organs. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.</p> <p>Precautionary statements Avoid breathing dust/fumes/gas/mist/vapours or spray. Wash face, hands and contact areas thoroughly after handling.</p>
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ACTIVE INGREDIENT/AKTIEWE BESTANDDEEL

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

NET VOLUME/NETTO VOLUME

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REGISTRATION HOLDER/REGISTRASIEHOUER

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IN CASE OF POISONING, CALL THE FOLLOWING NUMBERS:

Griffon Poison Information Centre:
+27 82 446 8946 or
Tygerberg Poison Information Centre:
+27 861 555 777
EMERGENCY NUMBER:
SPILL TECH: +27 86 100 6366 or +27 83 253 6618

Batch number	UN no.:3082	Lotnommer
Date of manufacture	Datum van vervaardiging
Expiry date	Vervaldatum



GHS information

WARNINGS

- Harmful if swallowed
- Harmful in contact with skin.
- Toxic if inhaled
- Causes skin irritation.
- Causes serious eye damage
- May cause an allergic skin reaction.
- May cause drowsiness or dizziness.
- Causes damage to organs.
- Very toxic to aquatic life.
- Very toxic to aquatic life with long lasting effects.

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

Sprinkler irrigation	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

- Avoid (do not breathe) breathing dust/fume/gas/mist/vapors/spray.
 - Avoid release to the environment.
 - Wash hands thoroughly after handling.
 - Do not eat, drink or smoke when using this product.
 - Use only outdoors or in a well-ventilated area.
 - Contaminated work clothing should not be allowed out of the workplace.
 - Wear protective gloves, protective clothing.
 - IF SWALLOWED: Rinse mouth. Get emergency medical help.
 - IF ON SKIN: Wash with plenty of water. Specific treatment. Get medical help.
 - If skin irritation or rash occurs: Get medical help.
 - Take off contaminated clothing and wash it before reuse.
 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Specific treatment. Get emergency medical help immediately.
 - IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical help.
 - Collect spillage.
 - Store locked up in a well-ventilated place. Keep container tightly closed.
 - Dispose of contents/container in accordance with local/regional/national/international Regulations.
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- 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.
 - 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.

RELEVANT SUBSTANCES

Chemical name	w/w %	CAS no.
Diquat Dibromide	30 – 60%	85-00-7
YUS-PQ100	<10%	9016-45-9

FIRST AID

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

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.

Skin contact: Take off all contaminated clothing immediately. Wash off immediately with plenty of water. If symptoms persist, call a physician. Wash contaminated clothing before re-use.

Inhalation: Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Keep patient warm and at rest. Call a physician or Poisons Information Centre immediately.

Ingestion: If swallowed, seek medical advice immediately. DO NOT induce vomiting.

NOTICE TO THE USER: This agricultural remedy is to be used only 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, **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.

MODE OF ACTION

22: PS I electron diversions.

DIRECTIONS FOR USE

Use only as indicated.

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
<p>Floating aquatic weeds Such as salvinia and water hyacinth</p>	<p>7.5 – 10 L ADAMA DIQUAT + 1.5 L AGRAL in 200 L water/ha</p>	<p>Aerial application: Apply in 35 – 40 L water/ha</p>
<p>Submerged aquatic weeds <i>Potamogeton</i> spp. <i>Lagarosiphon</i> spp.</p>	<p>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.</p>	<p>Apply to inflo water via an intravenous medical drip apparatus at a drip rate of 1 drop per second. Repeat application when necessary.</p>
	<p>Spot Treatment: 0.5 L ADAMA DIQUAT /100 m²</p>	<p>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.</p>

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
<ul style="list-style-type: none"> • For the control of annual grass and broadleaf weeds, especially Cape marigold (<i>Arctotheca calendula</i>). • 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: <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • 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
<ul style="list-style-type: none"> • 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:	
<i>Arctotheca calendula</i>	Cape marigold
<i>Erodium moschatum</i>	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*, *Gisokia 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 leaf 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.