

74530-25

3-21-2008

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U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs
Registration Division (7505P)
Ariel Rios Building
1200 Pennsylvania Ave., NW
Washington, D.C. 20460

EPA Reg. Number:

74530-25

Date of Issuance:

21 MAR 2008

NOTICE OF PESTICIDE:

X Registration
Reregistration
(under FIFRA, as amended)

Term of Issuance: Conditional

Name of Pesticide Product:

Helm Diquat Aquatic and Landscape

Name and Address of Registrant (include ZIP Code):

Helm Agro US, Inc.
8295 Tournament Dr., Suite 310
Memphis, TN 38125

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act. Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is registered in accordance with FIFRA sec. 3(c)(7)(A), provided that you make the following revisions:

- 1. Change the Signal Word to "Caution," wherever it appears on the label.
2. Remove the statement, "Do not use this product for reformulation," wherever it appears on the label.
3. When labels are printed, assure that "Caution" and "Keep Out of Reach of Children" meet the size requirements specified by 40 CFR 156.60(b)(1).
4. Precautionary Statements- Hazards to Humans and Domestic Animals section: change text to read, "Caution. Harmful if inhaled. Harmful if swallowed. Causes moderate eye irritation. Avoid breathing spray mist. Avoid contact with eyes or clothing."
5. Under the Personal Protective Equipment section:
- Remove the statement, "Coveralls over short-sleeved shirt and short pants or,"
- Add "A dust/mist filtering respirator (MSHA/ NIOSH approval number prefix TC-21C)" to the PPE requirements

Comments continued on page 2 of this Notice of Registration

Signature of Approving Official:

Joanne I. Miller
Product Manager 23
Herbicide Branch
Registration Division (7505P)

Handwritten signature of Joanne I. Miller

Date:

21 MAR 2008

6. On page 2, remove, "0.50% Sharda Diquat Dibromide 37.3%" and replace with your product name.
7. Add the word, "exist," after "washables."
8. Add the heading, "Engineering Controls," to the section beginning, "When handlers use closed systems...."
9. Environmental hazards statement: Add the words, "or rinseate," after "wash waters."
10. Make the following modifications to the "Conditions of Sale and Warranty" statement:
  - a. Under the heading "Conditions," change the word "should" to "must."
  - b. Add the statement, "To the extent consistent with applicable law," to the beginning of the sentence "Helm Agro US, Inc., makes no warranties...."
  - c. Add the statement, "To the extent consistent with applicable law," in front of the sentence beginning, "In no event..."
11. Agricultural Use Requirements box:
  - The restricted-entry interval for WPS uses of diquat is 7 days. Change the statement, "Do not enter...24 hours," to "Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 7 days."
  - Remove the statement, "Coveralls over short-sleeved shirt and short pants or."
12. Non-Agricultural Use Requirements: Change the "For terrestrial uses" statement to read, "Do not enter or allow others to enter treated areas until sprays have dried."
13. There is a 24-hour swimming prohibition for waters treated with diquat, per the diquat RED. The Water Use Restrictions table (page 8) needs to be modified to address this. Additionally, add a statement about posting/notification. The following is an example of a notification via posting, but other methods of notification which convey the above restrictions may be used and may be required in some cases under state or local law or as a condition of a permit:

**Example:**  
Posting notification should be located every 250 feet including the shoreline of the treated area and up to 250 feet of shoreline past the application site to include immediate public access points. Posting must include the day and time of application.
14. Add the statement, "EPA Reg. No. 74530-25."

Submit one copy of the final printed label before you release the product for shipment. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). A stamped copy of the label is enclosed for your records.

Enclosure

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# HELM DIQUAT Aquatic

ACCEPTED  
with COMMENTS  
in EPA Letter Dated

21 MAR 2008

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.

74530-25

## Landscape and Aquatic Herbicide

TO PREVENT ACCIDENTAL POISONING, NEVER PUT INTO FOOD, DRINK, OR OTHER  
CONTAINERS, AND USE STRICTLY IN ACCORDANCE WITH ENTIRE LABEL.  
DO NOT USE THIS PRODUCT FOR REFORMULATION.

**Active Ingredient:**

Diquat dibromide [6,7-dihydrodipyrido (1,2-a:2',1'-c)  
pyrazinediium dibromide] ..... 37.3%

**Other Ingredients:** ..... 62.7%

**Total:** ..... 100.0%

Contains 2 lbs. diquat cation per gal. (3.73 lbs. diquat dibromide per gal.)

**KEEP OUT OF REACH OF CHILDREN.**

### WARNING/AVISO

*Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If  
you do not understand the label, find someone to explain it to you in detail.)*

See additional precautionary statements on label.

EPA Reg. No. 74530-  
EPA Est

     gallons

Net Contents

Manufactured for: Helm  
Agro US  
8295 Tournament Dr.  
Suite #310  
Memphis, TN 38125

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### HELM DIQUAT Aquatic

FIRST AID	
<b>If on skin or clothing</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If in eyes</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If swallowed</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>If inhaled</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
<p><b>NOTE TO PHYSICIANS</b> To be effective, treatment for diquat poisoning must begin <b>IMMEDIATELY</b>. Treatment consists of binding diquat in the gut with suspensions of activated charcoal or bentonite clay, administration of cathartics to enhance elimination, and removal of diquat from the blood by charcoal hemoperfusion or continuous hemodialysis.</p>	
<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment.</p>	
<p>For 24-Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire, or Accident), Call (303) 623-5716 (Rocky Mountain Poison Control Center) For Transportation Emergencies: Call ChemTrec at (800) 424-9300.</p>	

### PRECAUTIONARY STATEMENTS

#### Hazards to Humans and Domestic Animals

#### WARNING / AVISO

May be fatal if absorbed through skin. Harmful if swallowed or inhaled. Causes substantial, but temporary, eye injury. Causes skin irritation. Contact with irritated skin, or a cut, or repeated contact with intact skin may result in poisoning. Do not get in eyes, on skin, or on clothing. Avoid breathing vapor or spray mist. Do not feed forage from treated crops to livestock. Keep livestock and pets out of treated fields and crop areas.

#### Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are: barrier laminate, butyl rubber >14 mils, nitrile rubber >14 mils. If you want more options, follow the instructions for Category A on an EPA Chemical Resistance Category Selection Chart.

#### Mixers, Loaders, Applicators and other handlers must wear:

- Coveralls over short-sleeved shirt and short pants or coveralls over long-sleeved shirt and long pants
- Chemical-resistant gloves
- Chemical-resistant footwear plus socks
- Protective eyewear
- Chemical-resistant headgear for overhead exposure
- Chemical-resistant apron when cleaning equipment, mixing, or loading
- Face shield when mixing or loading

**Exception:** After this product has been diluted to 0.50% Sharda Diquat Dibromide 37.3% or less in water (i.e., the labeled rate for some spot applications), applicators for AQUATIC SURFACE APPLICATIONS must, at a minimum, wear (Note - Mixers and Loaders for this application method must still wear the personal protective equipment (PPE) as described in the above section):

- Long-sleeved shirt and long pants
- Shoes plus socks
- Waterproof gloves
- Protective eyewear

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## HELM DIQUAT Aquatic

Exception: At a minimum, applicators for AQUATIC SUBSURFACE APPLICATIONS must wear (Note - Mixers and Loaders for this application method must still wear the personal protective equipment (PPE) as described in the above section):

- Short-sleeved shirt and short pants
- Waterproof gloves
- Chemical-resistant footwear plus socks

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

### Engineering Control Statements

Mixers and loaders supporting aerial applications are required to use closed systems that provide dermal protection. The closed system must be used in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4)]. When using the closed system, mixers and loaders' PPE requirements may be reduced or modified as specified in the WPS.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

### User Safety Recommendations

#### Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Prolonged contact of the product with the skin may produce burns.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

### Environmental Hazards

This pesticide is toxic to aquatic invertebrates. For Terrestrial Uses, do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash water. For Aquatic Uses do not apply directly to water except as specified on this label.

## CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

**NOTICE:** Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product should be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of HELM AGRO US, INC. or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold HELM AGRO US, INC. and Seller harmless for any claims relating to such factors.

HELM AGRO US, INC. warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of the product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or HELM AGRO US, INC., and Buyer and User assume the risk of any such use. HELM AGRO US, INC. MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

In no event shall HELM AGRO US, INC. or Seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF HELM AGRO US, INC. AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF HELM AGRO US, INC. OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

HELM AGRO US, INC. and Seller offer this product, and Buyer and User accept it, subject to the foregoing conditions of Sale and Limitations of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of HELM AGRO US, INC..

## DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

**READ ENTIRE LABEL USE STRICTLY IN ACCORDANCE WITH PRECAUTIONARY STATEMENTS AND DIRECTIONS, AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.**

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## HELM DIQUAT Aquatic

**Do not apply this product through any type of irrigation system.**

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

**Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 24 hours.**

**PPE** required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- Coveralls over short-sleeved shirt and short pants, or coveralls over long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material
- Chemical-resistant footwear plus socks
- Protective eyewear
- Chemical-resistant headgear for overhead exposure

### NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

**Keep all unprotected persons out of operating areas or vicinity where there may be drift.**

**For terrestrial uses**, do not enter or allow entry of maintenance workers into treated areas, or allow contact with treated vegetation wet with spray, dew, or rain, without appropriate protective clothing until spray has dried.

**For aquatic uses**, do not enter treated areas while treatments are in progress.

## STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

### Pesticide Storage

Keep pesticide in original container. Do not put concentrate or dilute into food or drink containers. Do not contaminate feed, foodstuffs, or drinking water. Do not store or transport near feed or food. Store at temperatures above 32°F. For help with any spill, leak, fire, or exposure involving this material, call CHEMTREC at (800) 424-9300.

### Pesticide Disposal

Open dumping is prohibited. Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

### Container Disposal

Do not reuse container. Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

### For Bulk And Mini-Bulk Containers

When the container is empty, replace the cap and seal all openings that have been opened during use and return the container to the point of purchase, or to a designated location named at the time of purchase of this product. This container must be refilled with this pesticide product. **DO NOT REUSE**

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## HELM DIQUAT Aquatic

**THE CONTAINER FOR ANY OTHER PURPOSE.** Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices. Check for leaks after refilling and before transporting. Do not transport if this container is damaged or leaking. If not returned to the point of purchase or to a designated location, triple rinse emptied container and offer for recycling. Disposal of this container must be in compliance with state and local regulations.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes.

**CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER!**

### SPECIFIC USE DIRECTIONS

HELM DIQUAT Aquatic is a nonvolatile herbicidal chemical for use as a general herbicide to control weeds in commercial greenhouses and nurseries; ornamental seed crops (flowers, bulbs, etc. - except in the state of California); landscape, industrial, recreational, commercial, residential, and public areas; turf renovation (all turf areas except commercial sod farms); dormant established turfgrass (bermudagrass, zoysiagrass - nonfood or feed crop); and aquatic areas. Absorption and herbicidal action is usually quite rapid with effects visible in a few days. HELM DIQUAT Aquatic controls weeds by interfering with photosynthesis within green plant tissue. Weed plants should be succulent and actively growing for best results. Rinse all spray equipment thoroughly with water after use. Avoid spray drift to crops, ornamentals, and other desirable plants during application, as injury may result. Application to muddy water may result in reduced control. Minimize creating muddy water during application. Use of dirty or muddy water for Sharda Diquat Dibromide 37.3% dilution may result in reduced herbicidal activity. Avoid applying under conditions of high wind, water flow, or wave action.

### SPRAY DRIFT MANAGEMENT

Avoiding spray drift at the application site is the responsibility of the applicator and the grower. The interaction of many equipment- and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses, or to applications using dry formulations:

- The distance of the outermost nozzles on the boom must not exceed  $\frac{3}{4}$  the length of the wingspan or rotor.
- Nozzles must always point backward parallel with the air stream and never be pointed downward more than 45 degrees.

Where states have more stringent regulations, they should be observed.

### Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (See **Wind, Temperature and Humidity, and Temperature Inversions**).

### Controlling Droplet Size

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles** - Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation** - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

### Boom Length

For some use patterns, reducing the effective boom length to less than  $\frac{3}{4}$  of the wingspan or rotor length may further reduce drift without reducing swath width.

### Application Height

Applications should not be made at a height greater than 10 ft. above the top of the target plants, unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

### Swath Adjustment

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## HELM DIQUAT Aquatic

When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase with increasing drift potential (higher wind, smaller drops, etc.).

### Wind

Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. **Note:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

### Temperature and Humidity

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

### Temperature Inversions

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog, however, if fog is not present inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

### Sensitive Areas

The pesticide should only be applied when the wind is blowing away from adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops).

### COMMERCIAL GREENHOUSES AND NURSERIES

For general weed control in commercial greenhouses (beneath benches), field grown and container stock, and other similar areas, HELM DIQUAT Aquatic may be applied preplant or postplant preemergence in field grown ornamental nursery plantings or postemergence as a directed spray. HELM DIQUAT Aquatic may also be applied preemergence in ornamental seed crops (except in the state of California). Avoid contact with desirable foliage as injury may occur. Do not use on food or feed crops.

**Spot spray:** 1-2 qts. HELM DIQUAT Aquatic plus the labeled rate of a 75% or greater nonionic surfactant per 100 gals. of water, or 0.75 oz. (22 mis.) HELM DIQUAT Aquatic plus the labeled rate of a 75% or greater nonionic surfactant per 1 gal. of water.

**Broadcast:** 1-2 pts. HELM DIQUAT Aquatic in a minimum of 15 gals. of water per acre. Add the labeled rate of a 75% or greater nonionic surfactant per 100 gals. of spray mixture. Use an adequate spray volume to insure good coverage.

### ORNAMENTAL SEED CROPS (FLOWERS, BULBS, ETC.) EXCEPT IN THE STATE OF CALIFORNIA

For preharvest desiccation of ornamental seed crops. NOT FOR FOOD OR FIBER CROPS.

**Broadcast (Air or Ground):** 1.5-2 pts. HELM DIQUAT Aquatic plus the labeled rate of a 75% or greater nonionic surfactant per acre in sufficient water (minimum of 5 gals. by air; 15 gals. by ground) for desiccation and weed burndown. Repeat as needed at no less than 5-day intervals up to three applications. Do not use seed, screenings, or waste as feed or for consumption.

### DIRECTIONS FOR LANDSCAPE, INDUSTRIAL, RECREATIONAL, COMMERCIAL, RESIDENTIAL, AND PUBLIC AREAS

HELM DIQUAT Aquatic provides fast control of broadleaf and grassy weeds in industrial, recreational, golf course, commercial, residential, and public areas.

HELM DIQUAT Aquatic is a nonselective herbicide that rapidly kills undesirable above ground weed growth in 24-36 hours. Avoid application of Sharda Diquat Dibromoide 37.3% SL to desirable plants.

HELM DIQUAT Aquatic is a contact/desiccant herbicide; it is essential to obtain complete coverage of the target weeds to get good control. Improper application technique and/or application to stressed weeds may result in unacceptable weed control. For best results, apply to actively growing, young weeds.

Difficult weeds (such as perennial or deeply-rooted weeds) can often be controlled by tank mixing HELM DIQUAT Aquatic with other systemic-type herbicides. Refer to other product labels for specific application directions.

For residual weed control, tank mix HELM DIQUAT Aquatic with a preemergent herbicide labeled for the intended use site. When mixing HELM DIQUAT Aquatic with another herbicide, it is recommended to mix just a small amount first to determine if the mixture is physically compatible before proceeding with larger volumes.



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## HELM DIQUAT Aquatic

Helm Agro US, Inc. has not tested all possible tank mixtures with other herbicides for compatibility, efficacy or other adverse effects. Before mixing with other herbicides Sharda recommends you first consult your state experimental station, state university or extension agent.

**Grounds maintenance weed control:** HELM DIQUAT Aquatic can be used as a spot or broadcast spray to control weeds in public, commercial and residential landscapes, including landscape beds, lawns, golf courses and roadsides. HELM DIQUAT Aquatic can also be used for weed control around the edges and nonflooded portions of ponds, lakes and ditches.

**Trim and Edge weed control:** HELM DIQUAT Aquatic can be used to eliminate undesired grass and broadleaf plant growth in a narrow band along driveways, walkways, patios, cart paths, fence lines, and around trees, ornamental gardens, buildings, other structures, and beneath noncommercial greenhouse benches. Vegetation control with HELM DIQUAT Aquatic is limited to the spray application width. Do not exceed the labeled rate of HELM DIQUAT Aquatic as excessive rates may result in staining of concrete-based materials.

HELM DIQUAT Aquatic, since it does not translocate systemically, can be used as an edging or pruning tool when precisely applied to select areas of grass or to undesirable growth on desirable ornamental bedding plants, ground covers, etc.

**Industrial weed control:** HELM DIQUAT Aquatic can be used as a spot or broadcast spray either alone or in combination with other herbicides as a fast burndown or control weeds in rights-of-ways, railroad beds/yards, highways, roads, dividers and medians, parking lots, pipelines, pumping stations, public utility lines, transformer stations and substations, electric utilities, storage yards, and other non-crop areas.

**Spot spray:** Apply either 1-2 qts. of HELM DIQUAT Aquatic plus the labeled rate of a 75% or greater nonionic surfactant per 100 gals, water, or 0.75 oz. (22 mis.) HELM DIQUAT Aquatic plus the labeled rate of a 75% or greater nonionic surfactant per 1 gal. of water.

**Broadcast:** 1-2 pts. HELM DIQUAT Aquatic per acre in sufficient water to insure good spray coverage. Add the labeled rate of 75% or greater nonionic surfactant per 100 gals, spray mixture. Greater water volumes are necessary if the target plants are tall and/or dense. It is recommended that 60 gals, or greater water volume be used to obtain good coverage of dense weeds.

### TURF RENOVATION (ALL TURF AREAS EXCEPT COMMERCIAL SOD FARMS)

To desiccate golf course turf and other turf areas prior to renovation, apply 1-2 pts. of HELM DIQUAT Aquatic per acre plus the labeled rate of a 75% or greater nonionic surfactant in 20-100 gals, of water (4 teaspoons of HELM DIQUAT Aquatic plus the labeled rate of a 75% or greater nonionic surfactant per 1 gal. of water) using ground spray equipment. Apply for full coverage and thorough contact with the turfgrass. Apply only when the turf is dry, free from dew and incidental moisture. For enhanced turf desiccation, especially in the case of thick turfgrass, water volumes should approach 100 gals, of water per acre.

For **suppression** of regrowth and quick desiccation of treated turfgrass, Sharda Diquat Dibromide 37.3% may be mixed with other systemic nonselective or systemic postemergence grassy weed herbicides. Refer to other product labels for specific application directions and restrictions.

Avoid spray contact with, or spray drift to, foliage of ornamental plants or food crops.

Do not graze livestock on treated turf or feed treated thatch to livestock.

### DORMANT ESTABLISHED TURFGRASS (BERMUDAGRASS, ZOYSIAGRASS), NONFOOD OR FEED CROP

For control of emerged annual broadleaf and grass weeds, including Little Barley\*, Annual Bluegrass, Bromes including Rescuegrass, Sixweeks fescue, Henbit, Buttercup, and Carolina Geranium in established dormant bermudagrass lawns, parks, golf courses, etc.

Apply 1-2 pts. HELM DIQUAT Aquatic per acre in 20-100 gals, of spray mix by ground as a broadcast application. Add the labeled rate of a 75% or greater nonionic surfactant per 100 gals, of spray mixture.

Bermudagrass must be dormant at application. Application to actively growing bermudagrass may cause delay or permanent injury. Users in the extreme Southern areas should be attentive to the extent of dormancy at the time of application.

\*For control of Little Barley, apply HELM DIQUAT Aquatic prior to the mid-boot stage.

### AQUATIC USE DIRECTIONS

**New York - Not for Sale or Use in New York State without Supplemental Special Local Needs Labeling.**

Necessary approval and/or permits must be obtained prior to application if required. Consult the responsible State Agencies (i.e., Fish and Game Agencies, State Water Conservation authorities, or Department of Natural Resources).

Treatment of dense weed areas may result in oxygen loss from decomposition of dead weeds. This loss of oxygen may cause fish suffocation. Therefore, treat only 1/3 to 1/2 of the water body area at one time and wait 14 days between treatments.

For best results on submersed weeds, HELM DIQUAT Aquatic should be applied to

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### HELM DIQUAT Aquatic

actively growing (photosynthesizing) weeds when water temperatures have reached or exceeded approximately 50°F, typically during the Spring or early Summer.

For application only to still water (i.e. ponds, lakes, and drainage ditches) where there is minimal or no outflow to public waters.

and/or

For applications to public waters in ponds, lakes, reservoirs, marshes, bayous, drainage ditches, canals, streams, rivers, and other slow-moving or quiescent bodies of water for control of aquatic weeds. For use by:

- Corps of Engineers; or
- Federal or State Public Agencies (i.e., Water Management District personnel, municipal officials); or
- Applicators and/or Licensees (Certified for aquatic pest control) that are authorized by the State or Local government.

Treated water may be used according to the following table or until such time as an approved assay (example: PAM II Spectromatic Method) shows that the water does not contain more than the designated maximum contaminant level goal (MCLG) of 0.02 mg/l. (ppm) of diquat dibromide (calculated as the cation).

**Water Use Restrictions Following Applications With HELM DIQUAT Aquatic (Days)**

Application Rate	Drinking	Fishing and Swimming	Livestock/ Domestic Animals Consumption	Spray Tank Applications** and Irrigation to Turf and Landscape Ornamentals	Spray Tank Applications** and Irrigation to Food Crops and Production Ornamentals
2 gals./surface acre	3 days	0	1 day	3 days	5 days
1 gal./surface acre	2 days	0	1 day	2 days	5 days
0.75 gal./surface acre	2 days	0	1 day	2 days	5 days
0.50 gal./surface acre	1 day	0	1 day	1 day	5 days
Spot Spray* (< 0.5 gal./surface acre)	1 day	0	1 day	1 day	5 days

\*Add a nonionic surfactant (with at least 75% of the constituents active as a spray adjuvant) at the rate recommended by the manufacturer.

\*\*For preparing agricultural sprays for food crops, turf or ornamentals (to prevent phytotoxicity), do not use water treated with HELM DIQUAT Aquatic before the specified time period.

When the contents of more than one spray tank is necessary to complete a single aquatic application, no water holding restrictions apply between the consecutive spray tanks.

No applications are to be made in areas where commercial processing of fish, resulting in the production of fish protein concentrate or fish meal, is practiced. Before application, coordination and approval of local and/or State authorities must be obtained.

**Floating and Marginal Weeds Including:**

- Water lettuce, *Pistia stratiotes*
- Water hyacinth, *Eichhornia crassipes*
- Duckweed, *Lemna* spp.
- Salvinia spp. (including *S. molesta*)
- Pennywort (*Hydrocotyle* spp.)
- Frog's Bit<sup>1</sup>, *Limnobium spongia*
- Cattails, *Typha* spp.

<sup>1</sup>Not for use in California

HELM DIQUAT Aquatic may be applied by backpack, airboat, spray handgun, helicopter, airplane, or similar application equipment that results in thorough spray coverage.

**Spot Treatment:** Apply HELM DIQUAT Aquatic at 2 quarts per 100 gallons spray carrier (0.5% solution) with an approved aquatic wetting agent at 0.25-1.0% v/v (1 quart to 1 gallon per 100 gallons water). For cattail control, HELM DIQUAT Aquatic should be applied prior to flowering at the maximum application rate (8 quarts of HELM DIQUAT Aquatic/100 gallons spray carrier) plus the wetting agent. Repeat treatments may be necessary for complete control.

Spray to completely wet target weeds but not to runoff. Densely packed weeds or mats may require additional applications due to incomplete spray coverage. Re-treat as needed. For best results, re-treat weed escapes within 2 weeks of the initial treatment.

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## HELM DIQUAT Aquatic

**Broadcast Treatment:** Apply HELM DIQUAT Aquatic at the rate of 0.5-2.0 gallons per surface acre in sufficient carrier along with 16-32 oz./A of an approved wetting agent. Re-treat as necessary for densely populated weed areas. Good coverage is necessary for control of the target weeds.

For duckweed control, apply HELM DIQUAT Aquatic at 1-2 gallons/A.

**Submersed Weeds Including:**

Bladderwort, *Utricularia* spp.  
Hydrilla, *Hydrilla verticillata*  
Watermilfoils (including Eurasian), *Myriophyllum* spp.  
Pondweeds<sup>1</sup>, *Potamogeton* spp.  
Coontail, *Ceratophyllum demersum*  
Elodea, *Elodea* spp.  
Brazilian Elodea, *Egeria densa*  
Naiad, *Najas* spp.  
Algae<sup>2</sup>, *Spirogyra* spp. and *Pithophora* spp.

<sup>1</sup> HELM DIQUAT Aquatic controls *Potamogeton* species except Richardson's pondweed, *P. richardsonii*.

<sup>2</sup>Suppression only. For control of *Spirogyra* and/or *Pithophora*, use HELM DIQUAT Aquatic in a tank mix with an approved algaecide.

For severe weed or algae infestations, the use of an approved algaecide either as a pretreatment to the HELM DIQUAT Aquatic application or in a tank mix, may result in enhanced weed control.

To control submersed weeds, apply HELM DIQUAT Aquatic in water at 0.5-2.0 gallons per surface acre (per 4 foot water depth). For severe weed infestations, use the 2.0 gallon per surface acre rate. For best results, re-treat as necessary on 14-21 day intervals. The table below shows how many gallons of HELM DIQUAT Aquatic to apply per surface acre based on water depth.

	Gallons of HELM DIQUAT Aquatic per Surface Acre			
	Average Water Depth			
	1 Foot	2 Feet	3 Feet	4 Feet
1 gallon/acre rate	0.25 gal.	0.50 gal.	0.75 gal.	1.0 gal.
2 gallon/acre rate	0.50 gal.	1.0 gal.	1.5 gals.	2.0 gals.

**Note:** For water depths of 2 feet or less including shorelines, do not exceed 1 gallon per surface acre.

**Subsurface Applications:** Where the submersed weed growth, especially Hydrilla, has reached the water surface, apply either in a water carrier or an invert emulsion through boom trailing hoses carrying nozzle tips to apply the dilute spray below the water surface to insure adequate coverage.

**Bottom Placement:** Where submersed weeds such as Hydrilla, Bladderwort, or Coontail have reached the water surface and/or where the water is slowly moving through the weed growth, the use of an invert emulsion carrier injecting diluted HELM DIQUAT Aquatic near the bottom with weighted hoses may improve control. The addition of a copper based algaecide may improve control. If algae are present along with the submersed weeds, a pretreatment with a copper based algaecide may improve overall control.

**Surface Application for Submerged Aquatic Weeds:** Apply the recommended rate of HELM DIQUAT Aquatic as a spray in sufficient carrier to fully cover the target area. Applications should be made to ensure complete coverage of the weed areas. In mixed weed populations, use the high rate of application as indicated by weeds present. For dense submersed weeds or water over 2 feet deep, a surface spray is not recommended (HELM DIQUAT Aquatic should be applied subsurface in these situations.)

If posting is required by your state or tribe - consult the agency responsible for pesticide regulations for specific details.

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# HELM DIQUAT AQUATIC

## Landscape and Aquatic Herbicide

**TO PREVENT ACCIDENTAL POISONING,  
NEVER PUT INTO FOOD, DRINK, OR  
OTHER CONTAINERS, AND USE STRICTLY  
IN ACCORDANCE WITH ENTIRE LABEL.**

**DO NOT USE THIS PRODUCT FOR REFOR-  
MULATION.**

Active Ingredient:	
Diquat dibromide [6,7-dihydrodipyrido (1,2-a:2',1'-c) pyrazinedium dibromide]	37.3%
Other Ingredients:	62.7%
Total:	100.0%

Contains 2 lbs. diquat cation per gal. (3.73 lbs.  
diquat dibromide per gal.)

See additional precautionary statements on label.

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to supplemental labeling under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

EPA Reg. No.  
EPA Est.

**gallons**  
Net Contents

Manufactured for:  
**Helm Agro US, Inc.**  
P.O. Box 640  
Hockessin, Delaware

## KEEP OUT OF REACH OF CHILDREN. WARNING/ AVISO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

### FIRST AID

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

If swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

**NOTE TO PHYSICIANS:** To be effective, treatment for diquat poisoning must begin IMMEDIATELY. Treatment consists of binding diquat in the gut with suspensions of activated charcoal or bentonite clay, administration of cathartics to enhance elimination, and removal of diquat from the blood by charcoal hemoperfusion or continuous hemodialysis. Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For 24-hour medical emergency assistance (human or animal) or Chemical Emergency Assistance (Spill, leak, fire, or accident) call the Rocky Mountain Poison Control Center at (303) 623-5716. For Transportation emergencies, call Chem Trec at (800) 424-9300.

### Precautionary Statements

Hazards to Humans and Domestic Animals

#### WARNING/AVISO

May be fatal if absorbed through skin. Harmful if swallowed or inhaled. Causes substantial, but temporary, eye injury. Causes skin irritation. Contact with irritated skin, or a cut, or repeated contact with intact skin may result in poisoning. Do not get in eyes, on skin, or on clothing. Avoid breathing vapor or spray mist. Do not feed forage from treated crops to livestock. Keep livestock and pets out of treated fields and crop areas.

#### Environmental Hazards

This pesticide is toxic to aquatic invertebrates. For Terrestrial Uses, do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash water. For Aquatic Uses do not apply directly to water except as specified on this label.

### STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

#### Pesticide Storage

Keep pesticide in original container. Do not put concentrate or dilute into food or drink containers. Do not contaminate feed, foodstuffs, or drinking water. Do not store or transport near feed or food. Store at temperatures above 32°F. For help with any spill, leak, fire, or exposure involving this material, call CHEMTREC at (800) 424-9300.

#### Pesticide Disposal

Open dumping is prohibited. Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

#### Container Disposal

Do not reuse container. Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

#### For Bulk And Mini-Bulk Containers

When the container is empty, replace the cap and seal all openings that have been opened during use and return the container to the point of purchase, or to a designated location named at the time of purchase of this product. This container must be refilled with this pesticide product. **DO NOT REUSE THE CONTAINER FOR ANY OTHER PURPOSE.** Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices. Check for leaks after refilling and before transporting. Do not transport if this container is damaged or leaking. If not returned to the point of purchase or to a designated location, triple rinse emptied container and offer for recycling. Disposal of this container must be in compliance with state and local regulations. For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes.

**CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER!**