

228-675

8/25/2009

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

Ms. Lizbeth Rea  
Product Registration  
Nufarm Americas, Inc.,  
150 Harvester Drive, Suite 200  
Burr Ridge, IL 60527

AUG 25 2009

SUBJECT: Application for Pesticide Notification (PRN 98-10)  
Request Primary Brand Name "Nufarm Diquat Pro 2 L Herbicide," and Alternate  
Brand Name "Nufarm Diquat 2 L Herbicide" & Warranty and First  
Aid/Precautionary Statement and General Label Changes  
EPA Reg. No. 228-675  
Application Dated July 15, 2009

Dear Registrant:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 dated 07/15/09 for the above product. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action(s) requested fall within the scope of PRN 98-10. The label submitted with the application has been stamped "Notification" and will be placed in our records.

If you have any questions, please call me directly at 703-305-6249 or Owen F. Beeder of my staff at 703-308-8899.

Sincerely,

A handwritten signature in black ink, appearing to be "Linda Arrington".

Linda Arrington  
Notifications & Minor Formulations Team Leader  
Registration Division (7505P)  
Office of Pesticide Programs

20917



United States  
Environmental Protection Agency  
Washington, DC 20460

Registration  
 Amendment  
 Other

OPP Identifier Number

Application for Pesticide - Section I

1. Company/Product Number 228-675	2. EPA Product Manager Joanne Miller	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) ETI 116 01 H A	PM# 23	
5. Name and Address of Applicant (Include ZIP Code) Nufarm Americas, Inc. 150 Harvester Drive, Ste. 200 Burr Ridge, IL 60527  <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: <b>NOTIFICATION</b> EPA Reg. No. _____ AUG 25 2009 Product Name _____	

Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

**Explanation:** Use additional page(s) if necessary. (For section I and Section II.)  
Notification of a primary brand name (Nufarm Diquat Pro 2 L Herbicide) change, adding an alternate brand name (Nufarm Diquat 2 L Herbicide) and minor label changes per PRN 98-10. This notification is consistent with the provisions of PRN 98-10 and EPA regulations at 40 CFR 152.46 and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PRN 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 FIFRA.

Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input checked="" type="checkbox"/> Metal	<input type="checkbox"/> Plastic
				<input type="checkbox"/> Glass	<input type="checkbox"/> Paper
* Certification must be submitted	If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt	Other (Specify) _____	
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container 4 x 1 gallon; 2 x 2.5 gallon		5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input checked="" type="checkbox"/> Lithograph Paper glued Stenciled			<input type="checkbox"/> Other _____		

Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Lizbeth Rea	Title Regulatory Manager	Telephone No. (Include Area Code) 919/655-0701
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)
2. Signature 	3. Title Regulatory Manager	
4. Typed Name Lizbeth Rea	5. Date 7/15/2009	



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Nufarm Americas, Inc.  
Lizbeth Rea  
Regulatory Manager  
150 Harvester Drive, Suite 200  
Burr Ridge, IL 60527  
Phone: 919.655.0701 Fax: 919.342.5176  
liz.rea@us.nufarm.com

July 15, 2009

Via Overnight Courier

Linda Arrington  
Document Processing Desk (NOTIF)  
Office of Pesticide Programs (7504P)  
U. S. Environmental Protection Agency  
Room S-4900, One Potomac Yard  
2777 S. Crystal Drive  
Arlington, VA 22202-4501

Subject: ETI 116 01 H A  
EPA Reg. No. 228-675  
PBN Change: Nufarm Diquat Pro 2 L Herbicide  
Add ABN: Nufarm Diquat 2 L Herbicide  
Minor Label Changes

Dear Ms. Arrington:

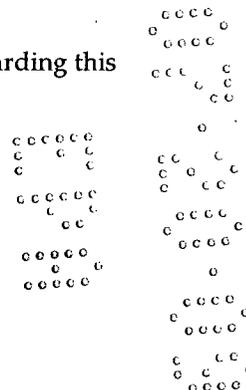
The following documents are attached in support of the primary brand name, alternate brand name and minor label changes being submitted via notification under PR Notice 98-10.

- Application for a New Product Registration (EPA Form 8570-1)
- One (1) copy of the Nufarm Diquat Pro 2 L Herbicide (PBN) label with changes tracked.  
Changes include:
  - Replaced the product name throughout the label with "this product".
  - Replaced "recommend" and "may" with more definitive language.
  - Updated Warranty Disclaimer and Limitation of Liability statements.
- Five (5) copies of the Nufarm Diquat Pro 2 L Herbicide (PBN) label with changes incorporated.
- One (1) copy of the Nufarm Diquat 2 L Herbicide (ABN) label with changes tracked.
- Five (5) copies of the Nufarm Diquat 2 L Herbicide (ABN) label with changes incorporated.

Please call me at 919/655-0701 if you have any questions and/or comments regarding this submission.

Sincerely,

Lizbeth Rea  
Regulatory Manager  
Nufarm Americas Inc.



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# Nufarm Diquat Pro 2 L Herbicide

## LANDSCAPE AND AQUATIC HERBICIDE

TO PREVENT ACCIDENTAL POISONING, NEVER PUT THIS PRODUCT INTO FOOD, DRINK, OR OTHER CONTAINERS. USE THIS PRODUCT STRICTLY IN ACCORDANCE WITH THE DIRECTIONS ON THIS LABEL.

**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 gallon (3.73 lbs. of diquat dibromide per gallon).

### KEEP OUT OF REACH OF CHILDREN

### CAUTION/PRECAUCION

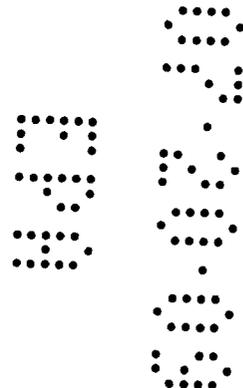
See inside label booklet for additional FIRST AID and PRECAUTIONARY STATEMENTS

EPA Reg. No. 228-675

EPA Est. No.

Manufactured for:  
Nufarm Americas Inc  
150 Harvester Drive  
Burr Ridge, IL 60527

Nufarm Diquat Pro 2 L Herbicide contains diquat dibromide, the active ingredient used in Reglone® and Reward®.



Net Contents:

5017

**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS AND DOMESTIC ANIMALS  
CAUTION/PRECAUCION**

Harmful if inhaled. Harmful if swallowed. Causes moderate eye irritation. Avoid breathing spray mist. Avoid contact with eyes or clothing.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Some materials that are chemical-resistant to this product are barrier laminate, butyl rubber ≥ 14 mils, and nitrile rubber ≥ 14 mils. If you want more options, follow the instructions for Category A on an EPA chemical-resistant 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% 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

**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)(4-6)]. 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.
- 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.

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<b>FIRST AID</b>	
<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 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 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 by mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
<b>HOT LINE NUMBER</b>	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-424-9300 for emergency medical treatment information.	
<b>NOTE TO PHYSICIAN</b>	
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.	

**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.

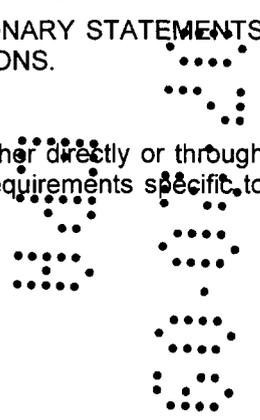
**DIRECTIONS FOR USE**

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.**

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.

### SPECIFIC USE DIRECTIONS

This product is a herbicide used to control weeds in the following sites:

- preharvest aid to desiccate labeled crops to facilitate harvesting
- labeled nonbearing crops
- noncrop or nonplanted areas on farms
- aquatic areas
- commercial greenhouses and nurseries
- dormant established turfgrass (bermudagrass, zoysiagrass – nonfood or feed crop)
- landscape, industrial, recreational, commercial, residential, and public areas
- ornamental seed crops (flowers, bulbs, etc. – excluding the state of California)
- turf renovation (all turf areas except commercial sod farms)

This product works by being absorbed by the weed, and, within a few days, the weed shows signs of dying. Optimum results are seen if the weeds are young, actively growing, and free from stress.

To avoid injury to desired crops, ornamentals or desirable plants, use caution to prevent drift during application and clean all spray equipment thoroughly with water after use. Avoid application to muddy water or disturbing the water during application that reduce weed control. To avoid reduced herbicidal activity, do not use dirty or muddy water in preparing spray solutions of this product. Avoid application 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 drift 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 must 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 sections of this label**).

#### **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 specified 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. 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 that further reduces drift without reducing swath width.

**APPLICATION HEIGHT:** Make applications at a height greater than 10 feet above the top of the largest 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:** 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. Increase swath adjustment distance with increasing drift potential (higher wind, smaller droplets, 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. Avoid applications below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator must 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:** Do not make applications 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:** Apply the pesticide 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).

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### AGRICULTURAL USES

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Apply this product to desiccate certain crops as a preharvest aid to facilitate harvesting. This product can also be applied as a general herbicide to control weeds in nonbearing crops and noncrop areas.

This product acts on contact with actively growing green plant tissue and for effective control, complete coverage of all green plant tissue is required. Signs of herbicidal activity are usually apparent within a few days of application. Improper application technique and/or application to large, stressed, or mowed weeds will generally result in unacceptable control. Weeds that emerge after application of this product will not be controlled or suppressed. Weeds that are established or larger than 6" my require retreatment.

NOTE: Cool (below 55°F) or cloudy, overcast weather will slow this product activity but will not affect performance.

### USE PRECAUTIONS

- Do NOT allow spray to contact or drift to desirable vegetation or severe plant injury or death will result.
- Do NOT use dirty or muddy water when diluting this product.
- Do NOT apply this product through any type of irrigation system.
- Rain or irrigation occurring within 30 minutes of application negatively impacts herbicidal activity.
- Be sure to rinse all spray equipment thoroughly with water after use.

### APPLICATION INSTRUCTIONS

Apply this product to newly emerged weeds while actively growing and before they become too large (weeds 1 - 6 inches in height are easiest to control). Be sure to follow the specified rates listed in the specific crop instructions below, using the higher rates when weeds are large or dense or when applying for harvest aid and the crop vegetation is dense.

If weeds have been mowed or grazed (removing much of the green foliage) be sure to allow weeds to regrow to a height of 2 - 4 inches before application. For harvest aid applications, refer to the specific crop instructions below for application timing specifications.

NOTE: Because dust can coat target surfaces and reduce product activity, avoid applying in extremely dusty conditions (e.g., dust caused by high winds or the passage of equipment tires).

#### Spray Equipment

Be sure to follow the specific instructions for minimum spray volumes listed in the crop specific instructions below. Note that the specifications are minimum volumes only, and increase spray volumes as necessary to obtain complete coverage of the target weed or plant (without causing foliage runoff). For best results use flat fan nozzles. Other nozzles provide less than complete coverage resulting in reduced performance.

NOTE: When spraying less than 20 gals. of spray carrier per acre, target weeds must not exceed 6 inches in height.

#### Adjuvants

When applying this product, be sure to always add one of the following adjuvants:

Nonionic Surfactant (NIS) - Add a NIS containing 75% or greater surface active agent at 0.06-0.5% v/v (1/2 - 4 pts. per 100 gals.) of the finished spray volume.

Other Adjuvants - Use adjuvants other than NIS but that meet the following criteria:

- Contains only EPA exempt ingredients.
- Is compatible when mixed with this product (compatibility can be determined using a jar test).
- Is supported locally for use with this product through proven field trials and through university and extension recommendations.

### SPECIFIC USE INSTRUCTIONS

**ALFALFA (Seed Crop Only)** – Apply to alfalfa for preharvest dessication. Dessication is typically complete within 3 – 10 days after application.

#### Use Precautions

- Do NOT graze or feed treated foliage to livestock.
- Do NOT use seed from treated plants for food, feed or oil purposes.
- Minimum preharvest interval is 3 days.

#### Application Instructions

Apply 1 1/2 – 2 pints of this product per acre as a broadcast spray using a minimum spray volume of 15 gallons / acre for ground or 5 gallons / acre for aerial applications. On thin stands of seed alfalfa, use 1 pint / acre.

**CLOVER (Seed Crop Only)** – Apply to clover for preharvest dessication. Dessication is typically complete within 3 – 10 days after application.

#### Use Precautions

- Do NOT graze or feed treated foliage to livestock.
- Do NOT use seed from treated plants for food, feed or oil purposes.
- Minimum preharvest interval is 3 days.

#### Application Instructions

Apply 1 1/2 – 2 pints of this product per acre as a broadcast spray using a minimum spray volume of 15 gallons / acre for ground or 5 gallons / acre for aerial applications.

**POTATO** – Apply to potato for preharvest dessication.

#### Use Precautions

- Do NOT apply to potatoes that are drought stressed.
- Do NOT apply more than 4 pints of this product per acre.
- Minimum preharvest interval is 7 days.

#### Application Instructions

Apply 1 – 2 pints of this product per acre as a broadcast spray using a minimum spray volume of 20 gallons / acre for ground or 5 gallons / acre for aerial applications. Where vine growth is dense, make a second application. Obtain improved coverage of the vines by making the second application five days after the first one.

**GRAIN SORGHUM (Seed Crop Only)** – Apply to grain sorghum for preharvest dessication.

#### Use Precautions

- Do NOT graze or feed treated foliage to livestock.
- Do NOT use seed from treated plants for food, feed or oil purposes.

#### Application Instructions

Apply 1 1/2 – 2 pints of this product per acre as a broadcast spray using a minimum spray volume of 15 gallons / acre for ground or 5 gallons / acre for aerial applications. Be sure to apply within 1 – 2 weeks of harvest and when the seeds have a moisture content of 30% or less.

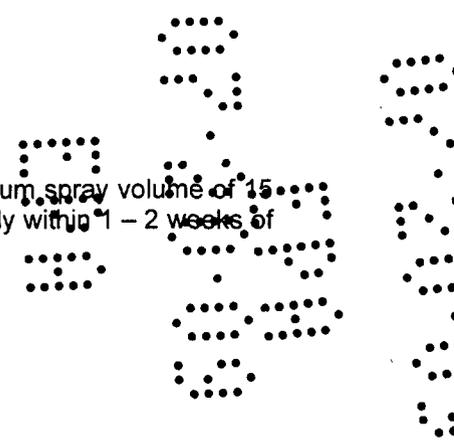
**SOYBEAN (Seed Crop Only)** – Apply to soybean for preharvest dessication.

#### Use Precautions

- Do NOT graze or feed treated foliage to livestock.
- Do NOT use seed from treated plants for food, feed or oil purposes.

#### Application Instructions

Apply 1 1/2 – 2 pints of this product per acre one week before harvest as a broadcast spray using a minimum spray volume of 15 gallons / acre for ground or 5 gallons / acre for aerial applications.



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**TREE, VINE, SMALL FRUIT AND VEGETABLE CROPS (Nonbearing)** – Apply to the following crops for site preparation prior to planting and for vegetation control up to one year of harvest.

Acerola (West Indian Cherry)	Almonds	Apple	Apricots
Artichokes	Asparagus	Avocados	Bananas
Blackberry	Blueberry	Boysenberry	Cherries
Coffee	Conifers	Crabapple	Cranberry
Dates	Dewberry	Elderberry	Figs
Filberts	Ginseng	Gooseberry	Grapes
Grapefruit	Guava	Huckleberry	Jojoba
Kiwi	Lemons	Limes	Loganberry
Macadamia	Mango	Nectarines	Olives
Oranges	Papayas	Passion Fruit	Peaches
Pears	Pecans	Persimmons	Pistachios
Plantains	Plums	Pomegranates	Prunes
Raspberry	Tangelos	Tangerines	Walnuts

**Use Precautions**

- Do NOT apply within one year prior to harvest.
- Do NOT graze treated areas.
- Do NOT allow spray to come into contact with green stems, foliage or fruit.
- When spraying around young trees or vines, use a shield or wrap the plant(s) to prevent injury.

**Application Instructions**

Apply 1 1/2 – 2 pints of this product per acre as a directed spray using a minimum spray volume of 15 gallons / acre. For complete control of grasses and / or older established weeds, retreat as necessary.

**NONCROP OR NONPLANTED AREAS ON FARMS** – Apply to the following areas for vegetation control.

Barrier Strips	Equipment Areas	Fence Lines
Farmyards	Farm Buildings	Fuel Storage Areas

Dry (non-flooded) areas around ponds, lakes, and drainage ditches

**Use Precautions**

- Do NOT allow spray to contact the foliage of food crops, ornamental plants or other desirable vegetation as injury or death will result.
- Be sure to add a surfactant as indicated in the application instructions below.

**Application Instructions**

NOTE: Established weeds require retreatment for control.

For Broadcast Applications: Apply 1 – 2 pints of this product per acre as a broadcast spray using a minimum spray volume of 15 gallons / acre. Be sure to achieve full coverage and thorough weed contact.

For Spot Treatments: Apply 1 – 2 quarts of this product with the labeled rate of a 75% or greater nonionic surfactant per 100 gallons of water (0.75 ounces or 22 ml with the labeled rate of a 75% or greater nonionic surfactant per 1 gallon of water).

**AQUATIC AND NONCROP USES**

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

This product is used to control aquatic weeds in **public waters** such as ponds, lakes, reservoirs, marshes, bayous, drainage ditches, canals, streams, rivers, and other slow-moving or quiescent bodies of water. Do not apply to water that is moving or if outflow leads to public waters (i.e., apply only to still water ponds, lakes and drainage ditches).

Optimum control of submersed weeds is obtained by applying this product when the weeds are actively growing (photosynthesizing), typically when water temperatures are about 50°F or more, (this occurs usually in the Spring or early Summer).

**Precautions and Restrictions:**

- Obtain all necessary approval and/or permits before application if required. Consult the responsible state agencies (i.e., Fish and Game Agencies, State Water Conservation authorities, or Department of Natural Resources).
- Apply this product by those applicators certified for aquatic pest control authorized by the State or local government, Federal or State public agencies such as Water Management District personnel and municipal officials, and by Corps of Engineers.
- For water bodies containing dense weeds, apply this product to only 1/3 to 1/2 of the water body area at one time. If a repeat application is required, wait for 14 days. Using this product in this manner will prevent loss of oxygen in the water body which occurs when dead weeds begin to decompose which often leads to suffocation of fish.
- Do not apply this product in areas where commercial processing of fish which produces fish protein concentrate or fish meal is practiced. Prior to application, coordinate application with and obtain approval from local and/or State authorities.
- Use water treated with this product only after the specified number of days have passed after application (refer to the table below for these water use restrictions). Alternatively, use the water at a different time after application only if an approved assay (ex. PAM II Spectromatic Method) shows that no more than the designated maximum contaminant level goal (MCLG) of 0.02 mg/L (ppm) of diquat dibromide (calculated as the cation) is present in the water.
- If posting is required by your State or Tribe, consult the agency responsible for pesticide regulations for specific details.

**Water Use Restrictions Following Applications**

TYPE OF WATER	Number of Days to Wait Before Using Water After An Application At Different Application Rates				
	2 gals./ surface acre	1 gal./ surface acre	0.75 gal./ surface acre	0.50 gal./ surface acre	Spot Spray (<0.5 gal./ surface acre) <sup>†</sup>
Drinking	3 days	2 days	2 days	1 day	1 day
Fishing and Swimming	0	0	0	0	0
Livestock/Domestic Animals Consumption	1 day	1 day	1 day	1 day	1 day
Spray Tank Applications <sup>††</sup> and Irrigation to Turf and Landscape Ornamentals	3 days	2 days	2 days	1 day	1 day
Spray Tank Applications <sup>††</sup> and Irrigation to Food Crops and Production Ornamentals	5 days	5 days	5 days	5 days	5 days
<sup>†</sup> Apply this product in addition to the manufacturer's specified rate of a nonionic surfactant (contains 75% or greater nonionic surfactant) <sup>††</sup> Do not use water treated with this product to prepare sprays to be applied to food crops, turf or ornamentals until the appropriate time period has elapsed or injury to crop, turf or plants could occur. <b>Note:</b> If more than one spray tank is required to complete a single aquatic application, there is no water restriction between the consecutive spray tank applications.					

**Control of Floating and Marginal Weeds**

This product controls the listed floating and marginal weeds from application by airboat, airplane, backpack, spray handgun, helicopter, or similar application equipment. For all application methods, ensure that weeds received thorough spray coverage.

Floating and Marginal Weeds Controlled
Water lettuce, <i>Pistia stratiotes</i>
Water hyacinth, <i>Eichhornia crassipes</i>
Duckweed, <i>Lemna</i> spp.
Salvinia spp. (including <i>S. molesta</i> )
Pennywort ( <i>Hydrocotyle</i> spp.)
Frog's bit, <i>Limnobium spongia</i> <sup>†</sup>
Cattails, <i>Typha</i> spp.

<sup>†</sup>Not registered for use in California

**Spot Treatment:**

**Application Rates:** 2 quarts of this product per 100 gallons spray carrier (0.5% solution) **plus** 0.25-1.0% v/v (1 quart to 1 gallon per 100 gallons water) of an approved aquatic wetting agent.

**For cattail control:** Apply this product before flowering at 8 quarts of this product /100 gallons spray carrier (the maximum application rate) plus the wetting agent. Make repeat applications if needed for complete control.

**Application Directions:** Apply spray solutions to wet completely the target weeds. Do not spray to runoff. Make additional applications if treating densely-packed weeds or mats. Best results are obtained for weed escapes if repeat applications are made within 2 weeks of the first treatment.

**Broadcast Treatment:**

**Application Rates:** 0.5 to 2.0 gallons of this product per surface acre in sufficient spray carrier **plus** 16 to 32 oz. per acre of an approved aquatic wetting agent.

**For duckweed control:** Apply this product at 1-2 gallons/A.

**Application Directions:** Apply sprays to ensure thorough target weed coverage. Repeat applications as necessary for densely populated weed areas.

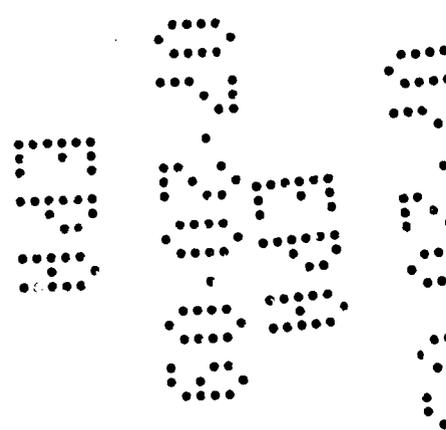
**Control of Submerged Weeds**

This product controls the listed submerged weeds from application by surface, subsurface, and bottom placement applications. Enhanced weed control are obtained in situations where severe weed or algae infestations are found: use an approved algaecide either as a pretreatment to an application of this product, or as a tank mix with this product.

Submersed Weeds Controlled or Suppressed
Bladderwort, <i>Utricularia</i> spp.
Hydrilla, <i>Hydrilla verticillata</i>
Watermilfoils (including Eurasian), <i>Myriophyllum</i> spp.
Pondweeds, <i>Potamogeton</i> spp. <sup>†</sup>
Coontail, <i>Ceratophyllum demersum</i>
Elodea, <i>Elodea</i> spp.
Brazilian Elodea, <i>Egeria densa</i>
Naiad, <i>Najas</i> spp.
Algae, <i>Spirogyra</i> spp. and <i>Pithophora</i> spp. <sup>††</sup>

<sup>†</sup> This product does not control Richardson's pondweed, *P. richardsonii*.

<sup>††</sup>Suppression only. *Spirogyra* and/or *Pithophora*, can be controlled using a tank mix of this product with an approved algaecide.



**Application Rates:** 0.5-2.0 gallons of this product in water per surface acre (per 4-foot water depth). For severe weed infestations, use the 2.0 gallon per surface acre rate. Repeat applications at 14- to 21- day intervals are needed for optimum control.

Use the table below to determine the number of gallons of this product needed to apply per surface acre based on water depth.

	Gallons of Product per Surface Acre			
	Average Water Depth			
	1 Foot	2 Feet	3 Feet	4 Feet
<b>1 gallon/acre rate</b>	0.25 gal.	0.50 gal.	0.75 gal.	1.0 gal.
<b>2 gallon/acre rate</b>	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.

**Application Directions**

**Subsurface Applications:** For submersed weeds, especially *Hydrilla*, that have reached the water's surface, apply this product in a water carrier or an invert emulsion through boom trailing hoses carrying nozzle tips that direct the dilute spray below the water surface to ensure adequate weed coverage.

**Bottom Placement:** For submersed weeds (ex. *Hydrilla*, Bladderwort, or Coontail) that have reached the water surface and/or where the water is slowly moving through the weed growth, apply this product in an invert emulsion carrier with weighted hoses that injects the diluted spray solution near the bottom. Adding a copper-based algaecide improves control. Alternatively, a pretreatment application with a copper based algaecide improves overall control if algae are present along with submersed weeds.

**Surface Application for Submersed Aquatic Weeds:** For submerged weeds, apply this product as a spray in sufficient carrier to fully cover the target area and to ensure complete coverage of the weed areas. Use the higher rate for mixed weed populations. Do not use surface spray applications for densely-packed submersed weeds or if water is over 2 feet deep (use subsurface applications of this product in these situations).

**COMMERCIAL GREENHOUSES AND NURSERIES**

Use this product for general weed control in commercial greenhouses (ex., beneath benches), for field grown and container stock, and in other similar areas. Make applications of this product preplant or postplant preemergence in field grown ornamental nursery plantings, or postemergence as a directed spray. For ornamental seed crops (NOT registered for use in the State of California), apply this product preemergence. Do not allow sprays to contact desirable foliage or injury will occur. Do not use on food or feed crops.

**Spot Spray Application Rates:** 1-2 qts. of this product **plus** a nonionic surfactant (contains 75% or greater nonionic surfactant) at the manufacturer's specified rate per 100 gals of water, or 0.75 oz. (22.1ml) of this product plus the manufacturer's specified rate of a nonionic surfactant (contains 75% or greater nonionic surfactant) per 1 gallon of water.

**Broadcast Application Rates:** 1-2 pts. of this product in a minimum of 15 gallons of water per acre **plus** a nonionic surfactant (contains 75% or greater nonionic surfactant) at the manufacturer's specified rate per 100 gals of spray mixture. For thorough coverage, apply this product in an adequate spray volume.

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

This product controls the listed emerged annual broadleaf and grass weeds in established dormant bermudagrass lawns, parks, golf courses, etc. Do not apply unless turfgrass is dormant at application.

Application to actively growing bermudagrass causes delay or permanent injury. If using this product in extreme Southern areas of the U.S., make certain that the turfgrass is dormant at the time of application.

<b>Weeds Controlled in Established Dormant Turfgrass</b>
Little Barley <sup>†</sup>
Annual Bluegrass
Bromes including Rescuegrass, Sixweeks fescue, Henbit, Buttercup, and Carolina Geranium

<sup>†</sup>Apply this product before the mid-boot stage.

**Broadcast (Ground) Application Rates:** 1-2 pts. of this product per acre in 20-100 gals. of spray mix *plus* a nonionic surfactant (contains 75% or greater nonionic surfactant) at the manufacturer's specified rate per 100 gals. of spray mixture.

**LANDSCAPE, INDUSTRIAL, RECREATIONAL, COMMERCIAL, RESIDENTIAL, AND PUBLIC AREAS**

This product is a non-selective herbicide and it will kill broadleaf and grassy weeds in industrial, recreational, golf course, commercial, residential, and public areas within 24-36 hours. Do not allow sprays to contact desirable plant foliage or injury will occur.

To be effective as a contact/desiccant herbicide, this product must completely cover the target weeds. Best results are seen when this product is applied to young, actively growing weeds. Do not apply to weeds that are growing under stress. Use the specified application techniques for acceptable weed control.

For weeds that are difficult to control, such as perennial, or deeply-rooted weeds, control is often obtained by applications of this product as a tank mix with other systemic-type herbicides. This product, when applied as a tank-mix with a preemergent herbicide labeled for the intended use site, will provide residual control. Before preparing large volume of a tank-mix of this product with other herbicides, check that the tank-mix is physically compatible by mixing only a small amount of the tank mix. If the mixture balls up, forms flakes, sludges, jels, oily films or layers, or other precipitates, do not use this combination: it is not compatible. Read and follow the other product labels for specific application directions.

It is not possible for Nufarm to test all possible tank mixtures of this product with other pesticides for compatibility, efficacy, or other adverse effects. Consult your state experimental station, state university or extension agent before tank-mixing this product with other herbicides.

**Grounds maintenance weed control in public, commercial and residential landscapes, including landscape beds, lawns, golf courses and roadsides:** Apply this product as a spot or broadcast spray to control weeds in listed sites or to control weeds around the edges and non-flooded portions of ponds, lakes and ditches.

**Trim and Edge weed control along driveways, walkways, patios, cart paths, fence lines, and around trees, ornamental gardens, buildings, other structures, and beneath non-commercial greenhouse benches:** This product can be used to eliminate undesired grass and broadleaf plant growth in narrow-banded areas along the areas listed.

Since this product does not translocate systemically, it can be used as an edging or pruning tool. This product must be applied only to the select, narrow-banded areas of grass or undesirable weed growth found in desirable ornamental bedding plants, ground covers, etc. This product will only control vegetation growing within the width of the spray application. Do not exceed the labeled rate of this product or concrete-based materials will be stained.

**Industrial weed control for right-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:** Apply this product as a spot or broadcast spray either alone or in combination with other herbicides for a fast burndown of weeds in listed industrial weed control sites.

**Spot Spray Applications:** 1-2 qts. of this product *plus* a nonionic surfactant (contains 75% or greater nonionic surfactant) at the manufacturer's specified rate per 100 gals. water. For small spray solution

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volumes, mix 0.75 oz. (22 ml) this product with the appropriate amount of the nonionic surfactant in 1 gallon of water.

**Broadcast Applications:** 1-2 pts. of this product per acre *plus* a nonionic surfactant (contains 75% or greater nonionic surfactant) at the manufacturer's specified rate per 100 gals. of spray mixture. Use sufficient water to ensure good spray coverage, although increased spray volumes (60 gals. or more) will be necessary for treating tall and/or dense target plants.

**ORNAMENTAL SEED CROPS (FLOWERS, BULBS, ETC.)  
(NOT REGISTERED FOR USE IN THE STATE OF CALIFORNIA)**

This product can be used for preharvest desiccation of ornamental seed crops. **DO NOT USE FOR FOOD OR FIBER CROPS.**

**Broadcast (Air or Ground) Applications:** 1.5-2 pts. of this product *plus* a nonionic surfactant (contains 75% or greater nonionic surfactant) at the manufacturer's specified rate per acre. Apply in sufficient amount of water (minimum of 5 gallons by air; 15 gallons by ground) to ensure desiccation and weed burndown. Make repeat applications at a minimum of 5-day intervals and do not apply more than three applications. Do not use seed, screenings, or waste as feed or for consumption.

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

This product is used to desiccate golf course turf and other turf areas prior to renovation. For suppression of regrowth and quick desiccation of treated turfgrass, use this product as a tank mix with other systemic non-selective or systemic postemergence grassy weed herbicides. Before tank mixing with other products, read and follow the other product labels for specific application directions and restrictions.

**Broadcast (Ground) Application:** 1-2 pts. of this product per acre *plus* a nonionic surfactant (contains 75% or greater nonionic surfactant) at the manufacturer's specified rate in 20-100 gals. of water. For smaller spray solution volumes, mix 4 teaspoons of this product and the appropriate amount of nonionic surfactant in 1 gal. of water. Apply this product as a full coverage spray to thoroughly contact the turfgrass. Make applications only when the turf is dry, free from dew or other moisture. Increased water volumes (100 gal. of water per acre) will enhance turf desiccation, especially when turfgrass is dense and thick.

Do not allow sprays to come in contact with or drift to, foliage of ornamental plants or food crops.

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

**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.

**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:** Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

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

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**WARRANTY DISCLAIMER**

The directions for use of this product must be followed carefully. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, (1) THE GOODS DELIVERED TO YOU ARE FURNISHED "AS IS" BY MANUFACTURER OR SELLER AND (2) MANUFACTURER AND SELLER MAKE NO WARRANTIES, GUARANTEES, OR REPRESENTATIONS OF ANY KIND TO BUYER OR USER, EITHER EXPRESS OR IMPLIED, OR BY USAGE OF TRADE, STATUTORY OR OTHERWISE, WITH REGARD TO THE PRODUCT SOLD, INCLUDING, BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, USE, OR ELIGIBILITY OF THE PRODUCT FOR ANY PARTICULAR TRADE USAGE. UNINTENDED CONSEQUENCES, INCLUDING BUT NOT LIMITED TO INEFFECTIVENESS, MAY RESULT BECAUSE OF SUCH FACTORS AS THE PRESENCE OR ABSENCE OF OTHER MATERIALS USED IN COMBINATION WITH THE GOODS, OR THE MANNER OF USE OR APPLICATION, INCLUDING WEATHER, ALL OF WHICH ARE BEYOND THE CONTROL OF MANUFACTURER OR SELLER AND ASSUMED BY BUYER OR USER. THIS WRITING CONTAINS ALL OF THE REPRESENTATIONS AND AGREEMENTS BETWEEN BUYER, MANUFACTURER AND SELLER, AND NO PERSON OR AGENT OF MANUFACTURER OR SELLER HAS ANY AUTHORITY TO MAKE ANY REPRESENTATION OR WARRANTY OR AGREEMENT RELATING IN ANY WAY TO THESE GOODS.

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**If you do not agree with or do not accept any of directions for use, the warranty disclaimers, or limitations on liability, do not use the product, and return it unopened to the Seller, and the purchase price will be refunded.**

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